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Science is the new god...

...technology the prophet, computers our idols, and algorithms our corrupt clergy.



Siddharth Parwatay

Assistant Editor

siddharth.parwatay@digit.in

“Question everything rather than accept statements – whether they come from governments, religions or even with a tag of science”

Like an omnipotent, all-knowing God, science and technology is also ever-present today. It determines all that we do – from simple choices such as which books to read and which route to take, to more important aspects such as which news updates to read (whose importance is decided by EdgeRank algorithms on FB) or which information to believe (with the search giant quietly deciding which information it will let you access).

It's really all dictated by technology and more specifically, controlled by algorithms. By itself, not all of this is subversive. But it is a part of a much larger trend – the deification of science/technology, which has crossed over into blind faith. If there is even a semblance of scientific methodology to any idea or theory, it must be true. An algorithm churned it out? It must be true, and so on...

Think of the constructs on which these algorithms run – the humble bits of data. Today, we refer to them collectively as “Big Data”. Grandiose and pompous as it sounds (like *High Priest* or *Sanctum Sanctorum*), it's probably justified that we've elevated data to such a lofty status. Collected data, when put through the algorithmic cauldron, can reveal disturbing patterns and even secret details about people, which can ultimately decide their fates (think background checks by prospective employers).

The same mysticism that shrouded religion has now permeated into technology. Complex or fantastical tasks are often explained by the shorthand of “it's the algorithm at work”. Sometimes, these new gods are our convenient scapegoats as well. You may have seen this when interacting with customer service executives, who can't help you because “the system isn't allowing it”. This is very akin to what Aamir Khan described as “wrong number” in his recent film P.K. What's disheartening is that many of us readily buy it as a perfectly valid reason. This mythical “system” is nothing short of a computer deity then. Something you can't reason with and works in mysterious ways. If an answer is attributed to a computational or (seemingly) scientific process, it's regarded as the gospel truth.

Will the day soon arrive then when we arrest people or even execute them... all because, well, an algorithm told us to? It sounds frightening, but implausible right? Like the witch trials must have seemed to people in the early 1600s or the inquisition seemed to the Mayans. Or how a Minority Report-like situation seems to us?

Another disturbing trend: Slap on the tag of “The science of xyz” and people will swallow just about anything, from circumcision to the curative properties of magnets. There's a lot of pseudoscience floating around. Just look at what happened at the Indian Science Congress (page 114) and you'll need no more convincing.

And what about the fanaticism? The next time you are privy to an on-going God vs. Science debate, simply replace the word “science” with “God”. You'd have a perfect example of a tirade delivered by two zealots – one religious and the other a so-called “rationalist” – you would be surprised to find that the religious radical would be indistinguishable from the science nut.

The aim of my tirade, on the other hand, is to shake you out of your stupor, if you have fallen into one. As Digit readers, you already have questioning minds and this is just fodder. Question everything rather than accept statements – whether they come from governments, religions or even with a tag of science.

To be able to question everything, however, you need to live in an environment that allows you to challenge status quo; if somebody is taking that away from you, fight back to re-create that environment. In our country, censorship has already reached ridiculously mind-numbing levels. This editorial, though not controversial per se, has the potential to ruffle some feathers as well (as I hope it does). It has all the ingredients: government and religion bashing for starters. In a censorship driven society, this editorial would have probably looked like this:

Science is new

...technology computers

and algorithms.

The good thing is that if the powers that be had done that to my editorial, I could've given you a pastebin link or you could've looked for the uncensored version online and you would've found it. That's possible today, so we take it for granted – but it may not last long if we do. So Digit folk, value your freedom, fight to retain it and respect the freedom of others. As for the rest, just stop getting offended at the drop of a hat...lighten up...and if you can't, bring it on...we are ready! 🔥

A handwritten signature in black ink, appearing to read 'Siddharth'.

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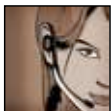
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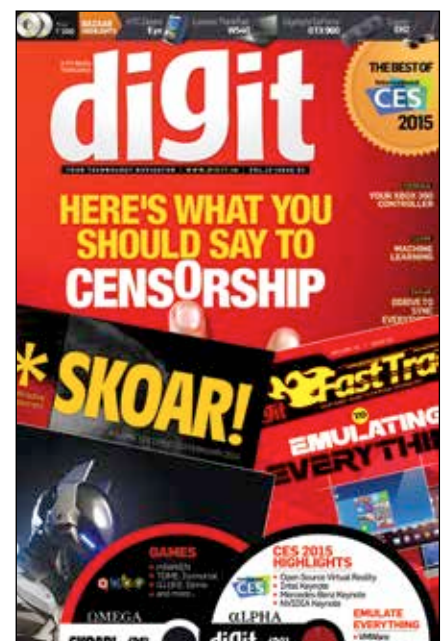
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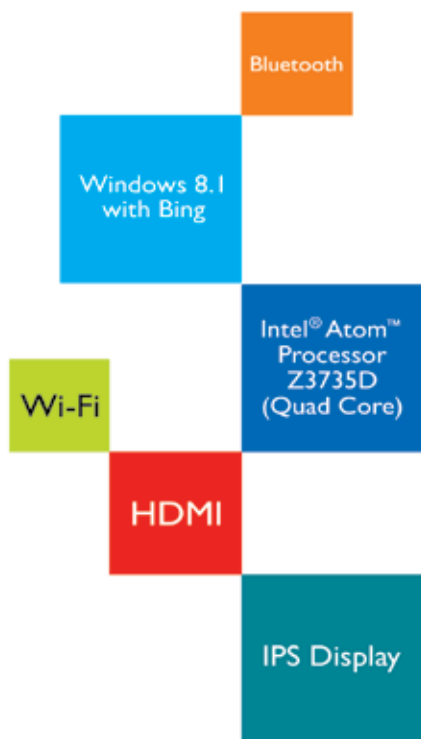
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"An E-United Nations will go a long way to make security of the Net a crucial responsibility for every participating nation state – not just incumbent upon businesses and employees, as things stand right now."

Technology is advancing at a great pace. As life gets more convenient, and getting things done is easier than ever, we start depending on the Internet far more than we spare a thought. Searching for information, socializing, planning travels, vacations, even filtering down to the most basic of communications (be it for work or pleasure) to donating your PC's time through complicated, state-of-the-art distributed computing for unlocking our universe's greatest mysteries – we're doing all of this and more, thanks to the Internet. Naturally, security of the Internet's infrastructure, and of the systems critical to our daily lives, becomes increasingly important (if nothing else) for one big reason. Cybercrime.

If you're getting something for free, then you're the product – we all know that. For cybercriminals, free online services are like neatly wrapped presents left under the Christmas tree, waiting to be opened and enjoyed. If something's free, they'll find a way to abuse it. Free webmail accounts, cloud storage services, dynamic DNS services, free social networks, email to SMS gateways, domain registrations are being exploited by criminals and malware architects to push online crime to an all-time high, testing systems to their limits. A combination of brute force and human error lead to an inevitable breach.

Attacks of the kind that happened on Sony Entertainment last December are exceptions, because they become a part of public discourse (movie, North Korea, terrorism, so many topics to keep hacks like us busy). The worrying nature of cybercrime is not just in its rampant rise across a broad sector of our industries (connected online) – healthcare, government, corporations, banking and finance, information and telecom, insurance sector – but most business' and organizations' ineptitude to deal with data breaches. Most function without an exhaustive information security policy. More worrying is the thought of infiltrating entities being largely undetected for a substantial amount of time (sometime ranging up to several months, which was the case in the Sony hack) in breached systems, and the business community's reticence towards proactively admitting successful hack attacks (to protect their brand image and market valuation). All this leaves ordinary citizens – people like you and me – increasingly vulnerable. Not a happy place to be.


Why should we care? Because at stake is not just our bank balance, our identity, but also our

online freedom, a basic sense of privacy and trust we tend to expect from the Internet. Will anyone login to any online service if you're constantly suspicious of it? No, right? Now imagine that for most of the things you care about online.

If Hollywood studios (protected by DMCA, MPAA, etc), financial institutions, and sensitive government departments of the US can be breached and hacked into, it's safe to assume that nothing's safe online. Ultimately, laws have to be stricter, and governments have to do more.

Europe is taking the lead on data security and protecting private information online, by enforcing mandatory breach disclosure, data protection policies, and hefty fines (between €100 million or 5% of annual revenue, according to some reports) on online businesses to protect online data within the European Union as early as 2016. The US is in the process of applying the finishing touches to a comprehensive cyber security framework as well. But the EU is only protecting Europeans, US laws only protect Americans. While India's still far behind the big boys on issues concerning cyber security and Internet governance, I can't help but think that an international law protecting the privacy of everyone online is crucial to safeguard us, our data, and our infrastructure.

We can't just have bilateral collaborations (or investigations) on a case-to-case basis while taking down online bad guys in a coordinated effort. As a global resource, the Internet needs to be democratized and decentralized, that much is clear. To that effect, an E-United Nations will go a long way to make security of the Net a crucial responsibility for every participating nation state – not just incumbent upon businesses and employees, as things stand right now.

Sure, we need to hone our online security senses, be extra careful, just like we do while safeguarding our house or while driving a car in a downpour. But we'll make mistakes, we're only human. Online entities that we interact with and the law of the land need to aim at higher standards than us; to preserve and maintain our trust of a safe and secure Internet for all of us. 

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BlackBerry Classic

The BlackBerry Classic is the latest offering from BlackBerry. The BlackBerry Classic features a full QWERTY keyboard, their traditional physical navigation keys and even the design is inspired by their best-selling BlackBerry Bold 9900. The smartphone runs the latest BlackBerry OS v10.3.1 and is powered by a 1.5 GHz Qualcomm Snapdragon processor along with 2GB of RAM. The BlackBerry Classic comes with a 3.5-inch touch display, 294 dpi HD resolution and Corning Gorilla Glass 3 protection. It features an 8MP rear facing camera and 2MP front facing camera. It has 16GB of device storage (expandable by up to another 128GB via Micro SD card). Other important features of the Classic include BlackBerry Blend, the all new BlackBerry Assistant, dual app storefronts – BlackBerry World and Amazon Appstore – and the innovative BlackBerry Hub that BlackBerry users love.



Lenovo S580 Black

Lenovo's S580 is a well-built budget dual-SIM with dual-standby smartphone. It has a 5-inch HD display sporting 1280 x 720 pixels resolution. The smartphone is powered by a 1.2GHz Quad-core Snapdragon 200 processor and runs on Android 4.3 (Jelly Bean). It has 1GB RAM and 8GB of internal storage expandable via micro SD card slot up to 32GB. The smartphone has an 8MP autofocus rear camera with LED flash and a 2MP front camera. Connectivity options included are 3G, Wi-Fi, Bluetooth and GPS support. The Lenovo S580 is backed by a 2150mAh battery pack.



Celkon Win400

Celkon Win 400 is the most affordable Windows Phone 8.1 based phone available in India today. It has a 4-inch display with 480 x 800 pixels resolution. The smartphone has a 1.2 GHz quad-core Qualcomm Snapdragon processor with 512MB RAM. It has 4GB of inbuilt storage that can be expanded via micro SD card slot up to 32GB. Win 400 has a 5MP rear camera with LED flash and a 1.3MP front camera. Connectivity options included are 3G, Bluetooth, GPRS/EDGE, Wi-Fi and Micro-USB. The smartphone is backed by a 1500 mAh battery and is available in Black and White color options.



Acer Liquid E700

The Acer Liquid E700 is midrange smartphone that offers triple SIM compatibility and higher RAM compared to similar smartphones in its price range. It has a 5 inch display with 720 x 1280 pixels resolution. The smartphone has a 1.2 GHz quad-core processor with 2 GB of RAM and runs Android 4.4 OS. It has 16 GB internal memory expandable via micro SD



card slot upto 32 GB. The smartphone has an 8 MP rear camera and a 2 MP front camera with LED flash. Connectivity options included are 3G, Wi-Fi, Bluetooth and USB support. The Acer Liquid E700 also comes with a large 3500 mAh battery pack.

Lumia 535

Microsoft's Lumia 535 is a Windows 8.1-based smartphone with core focus on selfies and video chats. Lumia 535 is a very well-built device with rather premium finish for its class. The built-in Office support gives the Lumia 535 a distinct advantage in terms of managing documents. Add the 15GB of free One Drive cloud storage space and you have a very capable device. The Lumia 535 has a 5-inch IPS LCD display with 540x960 pixels resolution. The smartphone has a 1.2 GHz quad-core Qualcomm Snapdragon processor with 1 GB RAM. It has 8 GB of inbuilt storage expandable via micro SD card slot to 128 GB. The smartphone offers 5 MP front and rear cameras. Connectivity options included are Wi-Fi, micro USB, 3G and Bluetooth. It has an inbuilt accelerometer and proximity sensors. The Lumia 535 is powered by a 1905 mAh battery.



Panasonic P55

Panasonic P55 is an affordable big screen smartphone, offering a 5.5 inch IPS display with 720 x 1280 pixels resolution. The large screen benefits video viewing and gaming.



The back cover of the P55 offers a unique tiled pattern, making it stand out in terms of design and appeal. The smartphone has a 1.2 GHz quad-core processor backed by 1 GB of RAM and runs Android 4.4 OS. It has 4 GB internal memory expandable via micro SD card slot to 32 GB. Connectivity options included are 3G, Wi-Fi, USB and Bluetooth. The Panasonic P55 smartphone comes with an 8 MP rear camera with LED Flash and a 2 MP front camera for high resolution selfies.

Spice Dream Uno H Mi-498H

Spice Dream Uno HMi-498H is India's first Android One smartphone with enhanced support for Hindi language. Being an Android One certified smartphone, the Spice Dream Uno offers stock (pure) Android experience. The Spice Dream Uno is a dual-SIM smartphone with a 4.5 inch IPS display sporting 480x854 pixels resolution. The smartphone has a 1.3GHz quad-core processor backed by 1GB of RAM and runs on Android 4.4 OS. It has 4GB of internal memory expandable via micro SD card slot up to 32GB. Connectivity options included are 3G, Wi-Fi, GPS, Bluetooth and USB support. It has a 5MP rear camera with Flash and a 2.4 MP front camera. The Spice Dream Uno HMi-498H has a 1700 mAh battery.



Lenovo Tab 2 A7-10

The Lenovo Tab 2 A7-10 is aimed at buyers wanting a low-cost 7inch Android tablet that is well-built and offers good specifications for the price. It has a 7-inch IPS display with 1024 x 600 pixels resolution. It sports a 0.3MP front camera (no rear camera). The tablet comes with 8GB internal storage along with 32GB expandable storage support via micro SD slot. For connectivity, the tablet supports Bluetooth 4.0, Wi-Fi 802.11 b/g/n and GPS. The tablet has front speaker Dolby Audio. It is powered by a 3450mAh battery.

Micromax Canvas Breeze Tab P660

The Micromax Canvas Breeze Tab P660 has a 7.85-inch IPS display with 1024 x 768 pixel resolution. It is powered by a 1.2 GHz quad-core MediaTek processor coupled with 1GB of RAM and runs on Android 4.2.2 Jelly Bean OS version. The tablet has 8GB of inbuilt storage, expandable via a microSD card slot up to 32 GB. Canvas Breeze Tab P660 has a 5 MP rear camera with LED flash and a 2 MP front camera. The camera has features like HDR, Panorama mode, Smile Detection Shot, and Face Beauty mode. Connectivity options included in the tablet are Wi-Fi, Bluetooth, dual-SIM, 3G with voice calling and FM radio. It is backed by a 4000mAh battery that according to company claims offers 310 hours of standby time and 12 hours of talk time.



Micromax Canvas Tab P470

The Micromax Canvas Tab P470 is aimed at users wanting a low-cost tablet with 3G voice calling capability. It has a 7 inch display with a 1024x600 resolution. The tablet has a 1.3GHz dual-core processor and runs on Android 4.4 OS. It has 1GB RAM and 8GB internal memory expandable via microSD card slot up to 32GB. It has a 5MP rear camera and a VGA front camera. Connectivity options include dual-SIM, 3G, Bluetooth, USB and Wi-Fi support. It has inbuilt compass, proximity and accelerometer sensors, and a decent 3200mAh battery pack.



Acer Liquid Jade

The Acer Liquid Jade is a premium smartphone from Acer. It is one of the slimmest and lightest phones from Acer and is aimed at buyers wanting a slim, good looking phone with premium features. It has a 5 inch display with 720 x 1280 pixels resolution. The smartphone has a 1.3 GHz quad-core processor with 1 GB of RAM and runs Android 4.4 OS. It has 16 GB of internal storage that can be expanded via micro SD card slot. The smartphone has a 13 MP rear camera with F1.9 aperture. The wide aperture should allow users to take good quality images in low-light. In extreme low-light conditions you can always fall back on the built-in flash. At the front, the Jade offers a 2MP sensor for high quality selfies. Connectivity options included are 3G, Wi-Fi, Bluetooth, NFC and USB support. The Acer Liquid Jade has a 2100mAh battery pack.



Panasonic Eluga S

Panasonic Eluga S features a 1.4GHz octa-core processor backed by 1GB RAM. The 'leatherite' back in the Eluga S makes it unique in terms of looks and gives it a premium touch. The Eluga S has a 5 inch HD IPS display with 1280 x 720 pixels resolution. The smartphone runs on Android 4.4. It has 8GB of inbuilt storage expandable up to 32GB. Eluga S offers an 8 MP rear



camera with LED flash and a 5 MP front camera. The 5MP front camera is backed by a special "Blink Play" feature, which when activated, detects a blink to fire the camera shutter, allowing you to capture selfies without having to tap on the screen. Connectivity options included are 3G, Wi-Fi, Micro-USB and Bluetooth. The Panasonic Eluga S has a 2100mAh battery and is available in Black and White.

Honest A\$\$\$%\$#%&

What you see above is an example of self-censorship. We do this all the time. We side-step, duck, dodge and altogether avoid absolutely anything that can be construed as a “sensitive topic”. And let’s face it, it’s not always the fear of hurting someone’s feelings that causes self-censorship, it’s also a fear of being the one who gets hurt!

Most of you don’t know this (unless you’ve met me), but I actually have a rather unfiltered connection between my brain and mouth. If you overheard me speaking to friends or colleagues, I’m pretty sure I’d offend some of your sensibilities (if not all). It’s because I’m an “Honest A\$\$\$%\$#%”, and am not ashamed to admit it. I speak my mind, but also encourage others to do the same, especially those who disagree with me. I don’t have to like what you’re saying in order to pay attention or listen – I’m not some TV news anchor or politician with an agenda.

However, as events over the past few years have shown, people are quick to take offense at just about anything. That’s fine too; if you want to go about life being a stuck-up, angry, hate-spewing person, who am I to judge you? Your thoughts are yours alone, your actions, however...Thoughts shouldn’t be policed, actions that affect others, have to be. Words, however, in my book, are thoughts, not actions. Easier said than done, obviously, but it’s what we should aim for as a society.

To clarify, I’m not talking about censorship and threats from terrorists or religious zealots, which is all just politics and the power hungry struggling to control the masses, as far as I’m concerned. I’m talking about the good guys, our knights in shining armour, our saviours and protectors – governments and all the mega corporations we put so much trust in (even if not by choice).

It’s fast becoming a not-so-private world. For example, the idea of sharing your life events with close family is long dead and gone. It’s now about sharing with the world...at least anything you’re proud of, because anything you’re ashamed of you try to bury as deep as possible.

We’re human, and what makes us human is the fact that we have an opinion. You express that opinion in the ways of today, which currently happen to be your Facebook or Twitter account, Reddit, blogs, whatever. Some of us use our real names and are proud of taking stands,


some prefer the cover of relative anonymity so that they can be less bothered about what others feel (and not get beat up, presumably).

I had an argument with an anti-feminist friend on a social network over a feminist status update I made, which was set to public (as almost all my posts are). When he realised this, he asked me to remove the original post/delete all his posts, because “Never know which stupid HR chick/dude does what silly background check” (and presumably gets the wrong impression). The premise was that people don’t have the maturity to be able to take what you say in the right spirit.

Now I don’t know about all this. I’ve always been a what-you-see-is-what-you-get type of person, flaws and all (especially the flaws). I can’t for the life of me fathom how people might be living dual (or more?) lives and playing different characters at home, at work, with friends, etc. I’d rather miss out on opportunities that (or people who) don’t appreciate the fact that everyone has flaws and eccentricities, and that’s what makes everyone special.

If a company doesn’t want to hire me because I’m openly feminist, or atheist, or outspoken, or an honest a\$\$\$%\$#%, I’d probably not enjoy working there anyway...

I can talk to and convince my friends to be more open, but how do you do that with a government or people in power or corporations? You don’t talk to them, you talk about them, you spread awareness. Don’t be afraid to speak your mind, and encourage or even defend others who speak their minds, especially when it’s a view contrary to your own, or goes against popular opinion. As Evelyn Beatrice Hall said, “I disapprove of what you say, but I will defend to the death your right to say it.”

Here’s to a utopian future where we’re all openly honest assholes, can stop self-censoring, and don’t get killed, jailed, beaten up or threatened for merely speaking our minds. Meanwhile, this month’s cover story lives squarely in the present and tells you how to thumb your nose at the censorship you’ll face until then... 



Robert Sovereign-Smith
Executive Editor
robert@digit.in

“Thoughts shouldn’t be policed, actions that affect others, have to be”

Liked or hated this column?
Write in to robert@digit.in
and let me know your thoughts.

FEBRUARY 2015

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MAKE THIS ISSUE OF DIGIT COME ALIVE



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Download the Blippar app



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Keep an eye out for the Blippar icon next to some images



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Blip the image and get access to video reviews, interactive games, and much more!



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Ashampoo WinOptimizer
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dgt

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It's back, and it's inside Digit. It's still a work in progress, but send us feedback about it. We're going to try and integrate it seamlessly, so your feedback will be valuable

New HP tablets

HP released its new range of business focused tablets which includes eight devices in totality from the HP Pro series.

✉ Well, first of all, I wish the entire Team Digit a very Happy, Successful and Digitised Year.

This day, 4 years ago, I bought my first copy of Digit magazine. So, this marks the completion of 4 years with Digit.

This is the first time I'm writing you a letter (though I've written many times before, especially to Robert and Siddharth, asking for help and other stuff).

While I'm not a subscriber, I buy every issue, especially the special editions. The reason behind it is that I live at my relative's place for studies and therefore there are chances my Digit mag may get damaged or torn. Since I'm very possessive about the magazine, I get all copies myself, either from stands or by pre-booking.

I still remember my first issue (Jan 2011 issue). It had a video on its DVD showing comparisons between tablets, which is what kept me hooked to Digit. I wasn't very impressed with the UI of the DVD, but I always liked the content. The current iPad UI on the DVDs is good though.

Once, I bought Chip. I must say, its page quality and content were awesome, but the DVDs were no match to that of Digit's. The few things I liked about it were the free Skyrim poster it provided and the good page quality. That was the first and last issue of Chip I ever bought.

Then came the 10-year anniversary issue, and boy did I like the way it was written and designed as well.

After reading a couple of issues of Digit, I was really enlightened about how the industry works, and what goes on around the world. Being an IT student, grades aren't of much importance if you don't know what the buzz all around is. You need to keep yourself updated.

My percentage saw a significant rise. My friends call me "Tech Guru", while teachers call me "Gadget Guru", and girls, well, some call me "Tech savvy" (my contact number is saved with the same name as well), and some call me "psycho-scientist". (Please don't laugh. Ok, I'm laughing as well.)

There are a couple of complaints/suggestions.

1. There are advertisements on almost every RHS page. Ok, I understand that

Feedback for the January 2015 issue of Digit



you need them to keep the costs down and business running. But, they're sometimes annoying. That MediaTek advert, which I've seen many times in past issues as well, still describes Android 5.0 as Key Lime Pie. (Pg-33, Dec 2014 issue). An update on it would be welcomed. I wouldn't like anyone looking at that and making fun of Digit.

2. I understand you guys, being everyone's heroes (including mine), must be receiving so many SOS calls for various things. And, it must be difficult to answer each and every query. Many a time, I haven't received replies to my queries through email, but they were answered in the mag. Well, this is not appreciated, given the fact that many times people may be in need of a quick reply to their urgent SOS calls, and getting their query answered in the mag itself may be too late. If the query is answered in the mag, please send a reply through email as well. Please, work this out.
3. Please bundle those small snippets provided on top of all pages and provide them in the DVD as well, so that we can find all of them in one place.
4. Fourth and most importantly, I'm addicted to Digit. (There's nothing you can do about it, because you guys are only getting better and better).

It's good to see SKOAR! and posters back. You guys are doing a great job. Much has been said by many on almost everything – the DVDs, the Encyclopaedia, SKOAR! and Fast Track. There isn't anything much to add to that. It's always good to start reading Digit with Robert's column, one not to be missed. Good to see Siddharth writing a column as well.

Keep up the great work. Once again, have a great year ahead.

– Sagar Bakre

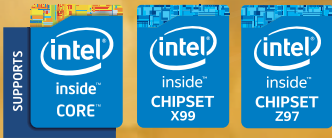
✉ It's always nice to hear from you Sagar and that's a very detailed letter indeed. One of the things you've mentioned particularly caught my attention – the bit about your percentage increasing thanks in part to your newly acquired taste for Digit. This is something most people don't realise. Digit isn't a trade off between marks and entertainment. When I was a reader long ago I'd noticed the same thing. Of course it was difficult to convince my parents about it as I imagine it would still be for readers. Anyway great suggestions we'll incorporate as many of them as we can in the coming months.

– Siddharth

✉ Hello Team Digit, As always, your magazine content was completely unexpected and awesome.

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A new Facebook feature will automatically transcribe voice recordings to text in the messenger itself.



Mi4 to cost more

According to recent rumours in the industry, the upcoming Xiaomi Mi4 is expected to be priced around ₹25,000

LETTER OF THE MONTH

✉ Dear Team Digit,

This is my first feedback to you since reading your magazine (a.k.a. masterpiece) for quite a few months. Every month, on the 1st, I go to the nearest book stall and buy your magazine before anyone else! I can forget to pay the electricity bill, but never forget to buy your electrifying magazine. Digit is truly the best tech magazine I've ever read that fulfils my geeky needs. It's a "paisa vasool" product! The best thing about Digit is the writing style, which is quite humorous sometimes. Also, the open letters by the team members make us think about the different new technological advancements and their positive and negative impacts on us (Every Digit reader will agree on this, for sure).

Still, I have a few suggestions and questions about your magazine which are as below:

- 1) The posters you provide are undoubtedly awesome, but the way they're provided ensures that they get fold marks and become very vulnerable to being torn apart.
- 2) The design of your launcher on the Alpha and Omega DVDs is quite old and dull. I think it's the right time to



change it.

- 3) Please put in an article on Windows hacking (not the illegal one) as put together by Ankit Fadia in books such as 'Windows Hacking 2.0'.
- 4) This may be a weird question, but how do you use your testing rig without a cabinet?
- 5) It would be very helpful if you gave QR codes in place of the links mentioned at the top of the magazine pages.

- 6) Please also mention the names and reviews of Android games in the SKOAR! magazine.
- 7) Please share a groupie with every member of Team Digit, if possible. Keep Digitising.

– Samir Kumar Sarkar

Duly noted about the launcher design in the DVD. It is indeed old now and we're already working towards updating it to something new and exciting. Any specific suggestions on that front? We use an open test rig because it's easier to switch different components quickly. Of course for products where temperature is a factor, we ensure that a baseline ambient temperature is maintained.

– Siddharth

Sadly, your encyclopaedias are over. I hope there are more to come and you'll soon bring out the 2nd edition (A-Z) of it. They really helped me a lot. Apart from improving my knowledge, they helped me get into the TCSITWIZ (India's biggest inter-school quiz competition) Nagpur finals.

So let me start with suggestions (that is, problem areas for me):

1. Your content in the DVDs are pretty cool, but they usually contain little or no material for Linux box. When you do include content for Linux, you pack in only the deb. packages and not the rpms (using Fedora). I'd like if you could also put in video tutorials about Linux. The gaming posters you're giving are

cool, but I'm not a gamer, so I don't like this inclusion very much. You could also put in posters of great people if there's something related to them in the magazine. For instance, Ralph Baer was mentioned in this month's issue. (I would like a Steve Jobs poster.)

2. Your site is cool for reading about the latest tech updates, however the header of the site is distracting since the font used for it (Oswald) strains the eye and the image isn't fixed.
3. It would be cool if you guys could also provide a Digit CD case each year.

– Kunal Wasnik

Maybe a decade later a second edition would make sense. But then again with

the pace at which technology is changing that might just be too long a wait and I might have to eat my words. Yes Linux needs some love from us for sure. Abhijit (our new DVD guy) is happy to oblige. Our site is a constant source of err challenging opportunities for us. Last but not the least, why do you want a CD case? That's such an anachronistic request but we'll see what we can do.

– Siddharth

✉ Dear Digit,

If someone would have asked me to define this magazine in one adjective, I would be at a loss of words, because it's beyond words! It's not even been a year since I started reading it, but I haven't missed a single issue since March 2014. Now, my geek friends have also started picking it up. It was like I had found just the right tech news source. Everything I needed to know about tech was in one place. Kudos to the team for this masterpiece!

I'd also like to address a few suggestions by which the magazine could become even better:

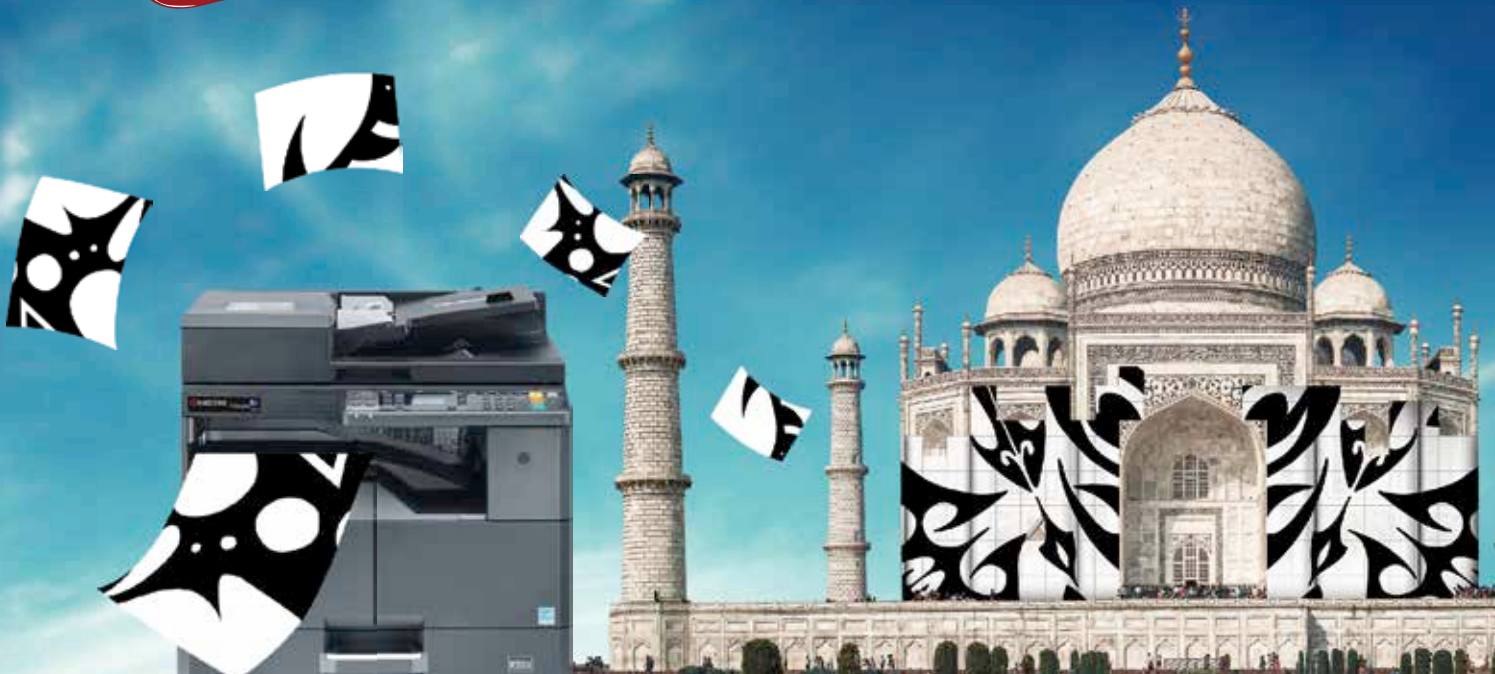
1. The tab layout on the DVD looks quite old and boring. You guys should think about changing it.
2. Try to include some articles based on music, movies etc., just for a change.
3. In SKOAR! include a list of top games and apps for platforms other than PC, such as Android, iOS, Windows Phone etc.
4. Those Photoshop tutorials were exceptionally awesome! More of them will always be welcome, since I find exploring Photoshop myself a bit hard. Anyways, keep making improvements and thanks for one hell of a magazine. Meanwhile, we'll keep getting digitised.

– Saikath Das

Like Samir Sarkar, you've also brought up the humdrum DVD interface. We definitely need to do something about it. Check out our Temptation section in the newly redesigned dgt section for you monthly dose of what to watch. And we'll definitely try to cover more movie stuff in the escape section in the coming months. SKOAR this time has a feature on top mobile games and we're planning to



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ASUS FonePad 8

ASUS launched its FonePad 8 tablet with calling capabilities and a 64-bit processor for ₹13,999 <http://dgit.in/FonePad8>



Toshiba Android TV's

Toshiba introduced its new range of FullHD and UltraHD 4K TV's in the country all of which feature Android 4.4. <http://dgit.in/ToshKitKat>

make it a regular feature. Last but not the least, thanks for all the feedback. Do keep writing in. It's these suggestions that keep us on the track of improvement.

– Jayesh

✉ Hello (world)!

I first found out about Digit magazine approximately 10 years back when I borrowed a copy from my techie friend. I've been reading it on and off until I subscribed to it last year and have been reading it every month since then.

I love to read about new technology and high-end products available in the market to learn about state-of-the-art technology.

But honestly, I love the Fast Track supplement more than the main issue, because it's usually focused on a topic which everyone talks about but very few know about in detail. Consider the Fast Track on Arduino; I learnt that there exists more than one Arduino version (I only knew about UNO before) and that so much could be done without a deep knowledge of electronics, thanks to OS libraries and cheap hardware that does pretty amazing stuff!

However, as a developer, I long for a magazine that provides development-related articles. The devworx content in Digit is too little to serve my hunger of staying updated. I wish there was a dedicated section about development, possibly discussing different platforms, frameworks and languages, and if you're feeling real generous, a dedicated magazine like SKOAR! or Fast Track, maybe every two months to satisfy the needs of developers.

Also, it's disappointing to know that devworx.in website is no longer maintained. The contests really served a great purpose and exposed us to new technologies with a reward system.

And lastly, I support the possibility of Digit shutting down the DVD distribution (as discussed in one of the letters to the editor) as most of the software can be downloaded for free using the almost ubiquitous high-speed internet. Perhaps it would be much more eco-friendly to do so!

One last question. You distributed seeds a couple of years back as a go-green initiative. Any chance of doing

that again, seeing that beautiful summer is coming up?

– Jaskirat Singh

4 Yes dev content has taken a sort of backseat because we overdid it last year and got a lot of feedback to bring it down a notch. The Digit Tree campaign is something that we definitely should do again. Last time I believe it was Nokia who had partnered with us. We'll have to see who is willing to help us out this time around.

– Siddharth

✉ First of all Happy Republic Day to Team Digit.

The January edition was innovative in a very different league. 'Win at Everything' was a very different and inspiring concept. The editorials were awesome as usual, but this time Jayesh stole the show with his play of words and hidden moral messages. Thank him for an enticing editorial. It's good that you integrated DGT into the main magazine.

Now, it's time for some more words of appreciation *drum roll*:

1. You've covered almost every much needed topic in the cover story 'Win At Everything'
2. The links at the top of each page were awesome. Especially, those about the VR Temple Run and Portal Basketball.
3. Appreciate your effort in demystifying all the sophisticated graphics settings that haunt every gamer.
4. Inspirational words by "Mad Zombie" (if he wrote the article "The Ultimate Gamer"). It turned me into at least one-fourth 1337 from n00b in CS:GO (my preferred game). The times are gone when people called me noobda *at the top of the world*.

After appreciation, come suggestions and requests (some of 'em are strange):

1. 'Win at Life' should be included in the cover story.
2. Can you provide the famous 'Hacker Manifesto' (or 'The Conscience of a Hacker') as the poster in the next edition?
3. Since some time now, I've been questioning the existence of God in my mind. Please present an article on the subject, i.e. if there's a God or not, and

the attempt made using technology to prove or disprove the existence of God.

4. You remember the 'Digit Wallpaper' contest? Why don't you organize a Digit Poetry Contest? I believe that many of your geek readers have a deep poetic side. Here's something I made for Digit, hope you like it:
"Digit, the technology navigator,
A punch to its every hater,
Making our tech knowledge even greater.
Turning every n00b into elite,
I love you Digit, cuz you are sweet and neat"
5. Why don't you announce a giveaway with the main attraction being GTX 980? It doesn't have to be GTX 980, something along those lines would also work fine.

Some questions that have arisen in my curious mind about Team Digit:

1. How many guys in Team Digit play Counter Strike: Global Offensive?
2. Anybody a bibliophile?
3. How many of you have heard about Eminem?
4. Sir Raaabo really a rat-phobic?

I congratulate all the members on finally trapping Creepicheep and hope you soon overcome Creepicheep Juniors!

P.S: Hope that everybody is fine in the fire accident that happened at the Digit Test Centre.

– Adhyayan Panwar, Nasbik

4 Anirudh and Jayesh are grinning from ear to ear.

You've given some good suggestions. We'll look into them, Adhyayan. Off the top of my head, here are some specific replies:

- Many of us do play CS:GO, but not very regularly. You can add us on Steam.
- Regarding the God vs. Science debate: here's something we'd done a while ago - <http://dgit.in/gdvssci>
- Raaabo is indeed scared of vermin.
- Yes by glob's grace we're all fine. We only had two casualties. Non-human but just as painful – Anirudh's 760 and mobo. But thanks for asking shows that you guys care and it's really sweet of you.

– Siddharth

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M72 GSM/GPRS

30-pin LCC
900/ 1800MHz
PPP/ TCP/ UDP/ HTTP/ FTP/ SMTP/ MMS sending/
NITZ/ NTP
QuecLocator/ Jamming Detection/ QuecFOTA/ MUX
CE/ UCRF/ GCF/ A-Tick

HOT



M85 GSM/GPRS

83-pin LCC
850/ 900/ 1800/ 1900MHz
PPP/ TCP/ UDP/ HTTP/ FTP/ SMTP/ NITZ/ NTP/ MMS/ SSL
DualSIM/ eCall/ Jamming Detection/ QuecFOTA/ DTMF/
MUX/ RIL/ OpenCPU/ SD/ PCM
CE/ GCF*



M95 GSM/GPRS

42-pin LCC
850/ 900/ 1800/ 1900MHz
PPP/ TCP/ UDP/ HTTP/ FTP/ SMTP/ PING/
MMS sending/ NITZ/ NTP/ SSL
DualSIM/ eCall/ Jamming Detection/ QuecFOTA/ DTMF/
MUX/ RIL/ QuecLocator
CE/ FCC/ GCF/ ICASA/ PTCRB/ UCRF/ IC/ NCC/
ANATEL/A-Tick/ Vodafone/ Rogers/ TELCEL

HOT



L80 GPS

GPS/QZSS
16.0 x 16.0 x 6.45mm
High Sensitivity -165dBm
Default baud rate 9600bps
Voltage 2.8V to 4.3V Typ 3.3V
Low power consumption: 20mA@Tracking mode;
25mA@Acquisition mode; 7uA@Backup mode

HOT



L76 GNSS

GLONASS/GPS/QZSS
10.1 x 9.7 x 2.5mm
Very low Power consumption
Easy technology without
external EEPROM
Pin to pin compatible with
GPS L70

HOT

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dgt

TECHNOLOGY WITH STYLE

GREED

For those who just want more than should be humanly allowed, we have enough to satisfy your hunger...

THIS MONTH: A 105-inch flexible television screen, the ultimate gaming laptop, a high-speed electric car and more...

TEMPTATION

If you're wondering what to do with yourself or how to spend some time getting cultured, this is for you...

THIS MONTH: The Hobbit: The Battle of the Five Armies, and more...

DESIRE

Another CES went by with much fanfare

And we dedicate this entire DGT section in homage to the geek mecca



The Intel Compute Stick

Ever wanted to carry your own little PC in your pocket? The Intel Compute Stick lets you do just that. It's powered by a quad core Atom Z3735F processor, with 16GB (Linux) and 32GB (Windows 8.1) of disk space, complete with Wi-Fi connectivity, microSD card slot and a USB port – enough to get your work done on the go. It seems promising, doesn't it?

The Consumer Electronics Show (CES) has been one of the biggest tech events around since the past 12 years, and a renowned source of some of the most innovative technology out there. And year after year, it never fails to disappoint. This year was no different.

From the 6th to the 9th of January, tech lovers swarmed into the Las Vegas Convention Centre to witness history in the making. With a reported 3,600 exhibitors and 17,000 attendees, CES 2015 was hailed as the largest in its existence.

From androids (the humanoid robots, not the little



green men) to 3D-printed everything, CES took things up a notch in practically every field in modern technology (whilst

inventing a few along the way) leaving fans and tech heads quite excited about what the year would bring.

Tonido 88 Tauri

Lamborghini launched the latest in its Tonido luxury tech series – a phone with frills. Literally. Can you afford it?
<http://dgit.in/LMB88Tauri>



Nyko Typepad

Ever thought "Hey! My PS4 can use a data bank, considering how the TB is shrinking by the day!" Well, Nyko has the solution: The Nyko Data Bank and Typepad. You never know when you'll need it!
<http://dgit.in/nykodbtp>

Omni, at last!

Enter: The Virtuix Omni!
<http://dgit.in/viromnces15>



Wireless Momentum

Sennheiser launched a wireless version of its popular Momentum headset at CES last month. Yes, we're all eagerly awaiting a pair of our own.
<http://dgit.in/sennmomWL>

Gogoro Smartscooter

What a city choked by CO₂ needs

Everyone and their uncle has a car, a bike and a scooter parked at home. The rich uncle probably has two cars, of which one's a German luxury car, however the fact remains that the cars' reliance on fossil fuels is choking us to death. What densely populated cities, especially in developing Asian nations, need is a light and efficient means of getting around. It would explain why bikes are so popular in India and why step-thrus are all the rage in South East Asia. Since it takes one to know one, the Smartscooter developed by Gogoro, a Taiwanese start-up is the perfect solution. An electric scooter powered by Li-Ion batteries, the Smartscooter promises top speed of about 100 km/h and a range of 100 kms. The reason it has the word 'smart' in its name is because it pairs up with your smartphone giving you real-time telemetry. This allows you to customise the setup of your scooter – including the way the lights turn off, the configuration of the fully digital display on the handlebar and even the sounds it makes, be it beeps or squeaks. While the idea of owning a smart scooter doesn't seem too novel, the way the batteries are charged is what makes the entire idea unique. Gogoro aims to laterally set up a network of charging stations across cities when the scooter becomes available. All the rider needs to do is pull up to the charging station and exchange the two



milk jug sized batteries for two more full of 'juice'. The electric motor is liquid cooled and puts out 8 bhp of power to the skinny rear wheel. This is one of the most exciting ideas we've come across in a while, and the fact that Gogoro spent the last three years in stealth mode creating the product without any concrete announcements makes the reveal even more captivating and tantalising.

SPECIFICATIONS

Price: NA | **Top Speed:** 100km/h | **Range:** 100 kms per charge | **Battery:** Panasonic 18650 Li Ion Battery

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A Cat out of Hell

The L.Y.N.X.9 is a controller like no other

The gaming equivalent of having your cake and eating it too would be to pick up Mad Catz' L.Y.N.X. 9. Dubbed the swiss army knife of gaming controllers, this is one of the most radical designs ever. Chock full of sharp lines and edges, this is literally cutting edge technology. It looks so sharp, we almost cut ourselves. With the ability to pair with smartphones, tablets, notebooks and PCs, the L.Y.N.X. 9. Definitely the more well made of the controllers, the L.Y.N.X.'s components are rated for over 1 million cycles and will come back for more even after being put through its paces.

The modular design allows the user to not only physically attach the controller to a smartphone, but also to a tablet. The low power Bluetooth sips gently on the juice and lasts up to 30 hours and the built in mic adds to the gaming experience.

While the L.Y.N.X. can accommodate a smartphone like any other gaming controller, the modular design allows you to split the controller and mount it on either side of a tablet. If you're still unhappy with how big your screen is, then use supplied PlayBig cables and enjoy your favourite game on your TV. You can even project the your steam account on to your TV and enjoy the latest



ClodLift enables PC games on your biggest screen. All this and more from a device that can fold up to be small enough to fit in your pocket.

SPECIFICATIONS

Price: ₹18,500 (\$299) | **Bluetooth Profile:** Human Interface Device (HID) | **Smart Device Support:** Samsung, Sony, HTC, and most other Android Devices | **HDMI Cable:** 3.3 feet | **5-Pin to 11-Pin Adapter:** For Samsung devices



YUNEEC Q500 Typhoon

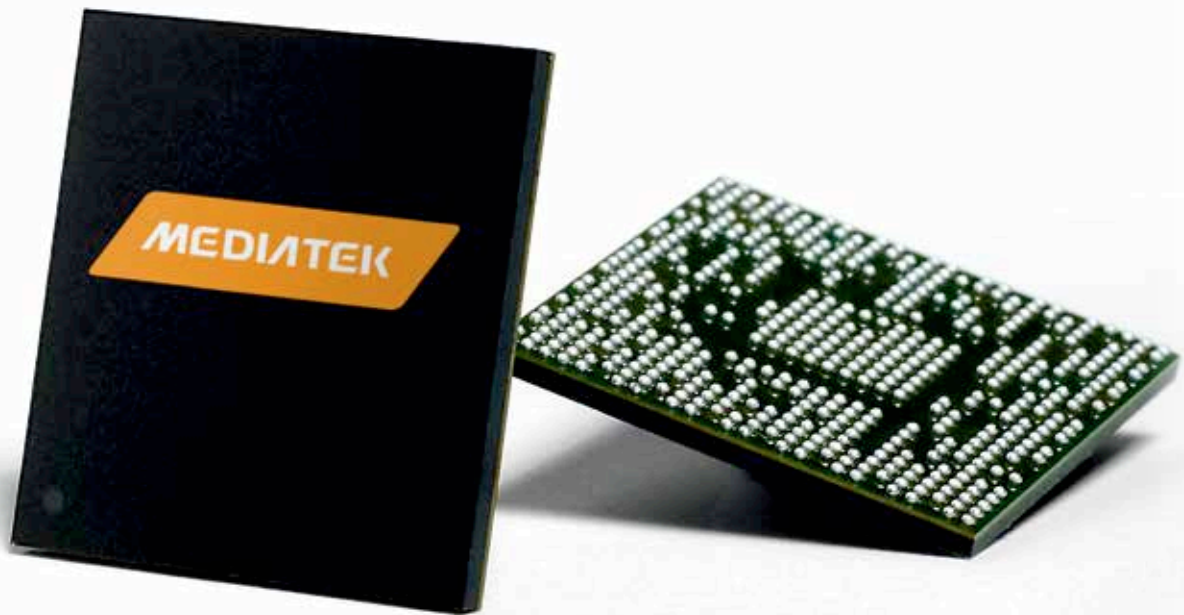
The drone is the world's latest obsession. When you throw in full HD recording, the interest peaks to new heights. Aimed at semi-professional aerial photographers, the Q500 Typhoon comes with a gimbal stabilised camera attached to a four-rotor chassis. Apart from shooting video, the camera allows you to take 12MP photos. The built-in video downlink allows you to view the footage on a display attached to the massive controller. Bundled with two massive 5400mAh LIPO batteries, a micro SD card, a USB adapter/charger, a car charger and the 10-channel 2.4GHz RC transmitter, the ST10 ground station, the Typhoon can be flown straight out of the box. It also comes with an auto landing system (pew!), a GPS antenna, and a compass.

SPECIFICATIONS

Price: ₹80,000 | **Size:** 2.5 inches | **Height:** 210 mm | **Width:** 565 mm | **Weight:** 1130 g | **Battery:** 2 x 5400 mAh LIPO | **Camera:** Gimbal stabilised, Full HD at 60 fps | **Other:** Video downlink

MediaTek MT6592

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Zoom in

The last smartphone featuring an optical zoom was the Samsung Galaxy K. Asus picked up where K left off with its latest entrant – the Zoomfone. With a bulky design, the Galaxy K wasn't very good. Asus has upped the ante and given us the slimmest phone with an optical zoom. Measuring at 11.95 mm at its thickest point, it also gives you OIS, laser guided AF, full manual controls and 3X optical zoom.

4K for 499.99

Sony has jumped on the action cam bandwagon and is taking things seriously. The 4K Action Cam records 4K video at up to 30 fps and gives you images that are roughly 9 megapixels in resolution. It can spit these images out at the rate of 60 per minute. All the gadgetry is housed within a splashproof body and is further protected by Sony's SPK-X1 waterproof case. For your money, you also get image stabilisation, a 170-degree wide-angle lens with an aperture of F2.8 and a standard tripod mount. With a price tag of \$499.99 (₹30,776), there's not much that sets it apart from the GoPro Hero4 Black.



Outfox thieves with MyFox

Let's face it, having your home broken into is no fun. MyFox's security system has all the bells and whistles found on the average security system with a few twists. One of them is the controllable shutter, which can be opened or closed. The camera can be moved around and paired with a separate security kit. It includes vibration sensors, alarms and a little intelligence as it comes with its own power backup, and if your Wi-Fi goes down, it can piggyback off a nearby system. Sadly, this object of desire will be available only in the US and set you back by \$500 (₹30,754) for the whole kit.



Knockout Nikon

Nikon featured two new products at CES. With the first, it decided to take the same path as Microsoft and skipped an entire model. The product we're talking about here is the D5500 (which replaces the D5300) – the one with the tilty-flippy screen. Nikon has ditched the plastic and adopted carbon-fiber reinforced plastic with this one as well, making it one of the lightest DSLRs around. It's also touted as the thinnest. If you're wondering what else is new, the list runs out immediately after the touchscreen and also, you lose GPS. Just like the last model, this has a 39-point AF, a 24.2MP APS-C sensor and an Expeed 4 image processor. It costs \$1,000 (₹61,550) with the standard 18-55 kit lens. If you already own a Nikon D5300, it really doesn't make sense to upgrade to this one. However, if you want to pick it up, you can get it for ₹59,950 if you want the 18-55 VR II, and ₹54,450 for just the body.



The more exciting offering from Nikon's stables is its new 300mm F4. Officially called the AF-S Nikkor 300mm f/4 PF ED VR Lens, the only unfamiliar abbreviation to the Nikon fanboy here will be the PF which stands for Phase Fresnel. A fresnel lens has concentric circles. This lens corrects nearly all chromatic aberrations on its own, thus allowing the lens makers to bring the length of the lens down by 75 mm. It's got a nine-blade aperture, like most pro Nikon lenses and a Nano Crystal Coat on the glass to prevent ghosting and lens flare. The lens also comes with VR II, giving shooters 4.5 stops of blur-free handheld shooting. It works on both, full frame and crop sensor DSLRs and accepts most teleconverters for a range extension. It's available for pre-order in the US for \$1,996 (₹1,22,725) at Adorama and BHP. Nikon says it'll be available here in February 2015 and prices will be announced then.

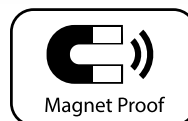
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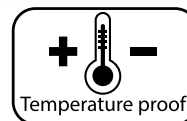
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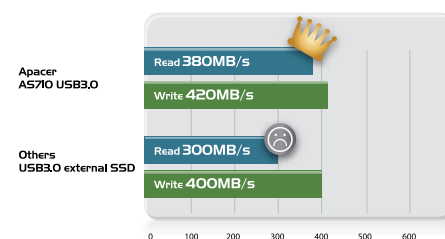
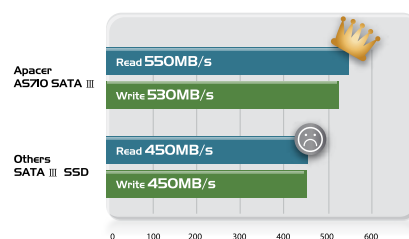
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Adidas miCoach Smart Ball

A football that's smarter than the player

Adidas is no stranger to football. It's been making match balls for every FIFA World Cup since the '70s. Decades of innovation have enabled Adidas to make a ball that helps you get better. Not new to the sports technology space, Adidas' miCoach has been helping runners improve their game for a while. Now, with the Smart Ball, Adidas aims to target worldwide fans of the most popular sport around. The regulation sized ball is not heavier than a regular ball and the only giveaway is its logo and a green mark that helps position it on its charging station. It pairs with iOS devices via Bluetooth and can record point of impact data from your kicks. Through the coaching app, the ball can teach you how to improve your kicks by telling you exactly where to strike the ball and from which angle. The only downside is that it can only record free kicks. Through the app, you learn techniques from professionals. The videos are slowed down and feature detailed pre and post shot analysis from multiple angles. Adidas wants you to use the ball and app by opening up the app, tapping 'Kick It' and shooting the ball into a net. By the time you retrieve the ball, you'll have a whole bunch of info – ranging from point of impact (as mentioned before) to spin, trajectory and speed. The app can represent this informa-



tion on a graph and pictorially represent your performance over a period of time on a graph. The ball can record up to 2,000 kicks on a single charge and retails for about \$300. While the app and the ball are excellent for someone who's just starting to play football, professionals will find it completely useless. Also, for the price you're paying, it might make more sense to buy a whole bag of balls and develop muscle memory.

SPECIFICATIONS

Price: ₹18,500 (approx.) | **Dimensions:** 22 cms diameter | **Sensors:** Tri-axial accelerometer | **Battery:** Li-Ion Polymer rechargeable via induction charging | **Standby time:** 2,000 kicks | **Weight:** 445 g



OhMiBod Remote

There's an app for everything. OhMiBod, a leading innovator in the adult pleasure device market has taken wearable technology to new "depths" by launching its blueMotion line of connected devices for "your pleasure". The app pairs with the massagers via Bluetooth or Wi-Fi and allows the user complete control over the patterns from anywhere in the world. Long story short, the vibrator responds to swipes, taps, the movement of the smartphone or tablet and the audio signals picked up by the mic apart from the preset patterns loaded into the app. The app will also enable the massagers to track the user's enjoyment through their vital signs for added fun. OhMiBod claims that the app can be connected to its Freestyle line of products as well as its original line of wired products. The app is available on devices running Android and iOS for free. Although, the Wi-Fi connectivity requires the user to make a one time in-app purchase of \$4.99.

SPECIFICATIONS

Price: Free/₹300 (approx.) | **Size:** 17.60 MB | **Connectivity:** Wi-Fi (b/g/n), Bluetooth

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Intel's Spider Dress

There were some very interesting products in the field of robotics at CES. Some of them simply interesting concepts, with little or no practical use, but still clearly the product of imaginative minds. From dancing robot spiders to robots that play a mean game of beer pong – some of the products bordered on science fiction, while some were inherently geeky in nature. Like Intel's Spider Dress.

The dress is almost completely 3D printed and resembles the unholy offspring of the spine-chilling theoretical alliance of the queens of the Borg and the Zerk.

The dress has spidery limbs on the shoulders of the wearer that flex and preen when it detects movement. Admittedly, it makes even a woman as attractive as the model on the right look extremely intimidating.

An excellent device to send anyone, from a roadside Romeo to an incubating face-hugger, sprinting for the hills.



Aiko Chihira

Toshiba caught several people off guard when it introduced Aiko Chihira to the world. This extremely life-like android stood at the stall at CES like an emcee for the Japanese conglomerate. Several people were caught unawares as she began her spiel about what she is and what her name means (she who looks beyond world horizons and wants world peace). While just a prototype, for now, Aiko Chihira is capable of talking to people in sign language. The gestures and movement of the android aren't completely smooth, and the expressions lack the realism of an actual human face, but they do look more realistic than anything else that technology has created up until now. A definite improvement and a clear sign of progress towards the next age of robotics.



Samsung UN105S9B

When you decide to buy a new television, the question "Flat screen or curved?" always comes to mind. Samsung does away with the need for such frivolous questions and gives you both (for the approximate price of a Mercedes E-Class).

But all said and done, this piece of hardware is a work of art. Standing tall at a 105 inches, this monster of a television bends to its master's command. The gadget does a flawless conversion from flat screen to curved without breaking a sweat. It stands with a whopping 21:9 aspect ratio – on the upper end of the ultra wide scale.

If you've got money to spend, we suggest buying nine 65" televisions and form a nice TV grid on your wall to save money, and donate the rest to Digit Magazine. It'll pay our rent for a couple of years.



Sony Walkman NW-ZX2

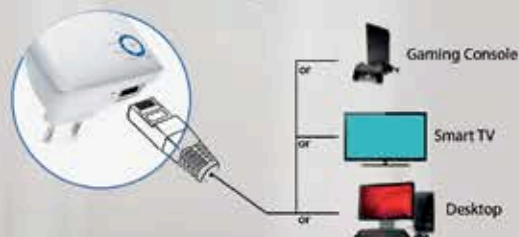
The new-age Walkman looks suspiciously like a cell phone. Sony decided to take a small detour from its time in the mobile devices market and return to its roots. But it's been into mobiles for far too long now, and it's fairly evident. Built like one of its Walkman cellphones, the ZX2 has a 4" screen and a very compact form factor. The device is capable of playing almost every audio file type available, and can play audio encoded at sampling rates of upto 192 kHz. The player has an impressive battery life of 33-60 hours, depending on the quality of the audio. Definitely a must buy for audiophiles everywhere, as long as you've got the funds.

Price: ₹60,000 (approx)



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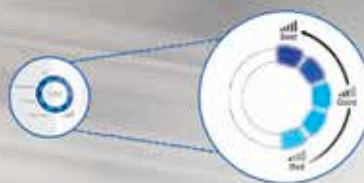
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MSI GT80 Titan SLI

Packed to the gills with power

With looks that could turn any gamer's head and hardware that could make every tech head in the vicinity line up for a bid. MSI seems to have done it again. With some mind-boggling style, to boot.

The MSI GT80 Titan SLI is the next generation in the Chinese giant's GT gaming laptop series. And admittedly, it's quite a boost. The 18.4" laptop runs on a 4th generation Intel Core i7 processor and sports a powerful pair of NVIDIA GTX 780Ms. If that isn't enough for you, it has added 32GB of RAM with some impressive storage capacity.

The laptop has a stock 7200rpm 1TB HDD as well as the capacity to upgrade to SSD storage using its four M.2 slots. The cherry on top is the SteelSeries-designed Cheery MX Brown mechanical backlit keyboard giving you more than enough light to play in the middle of the night with the eerie red glow cast across your grinning face.

Considering the amount of hardware packed into it, the Titan weighs in at an unsurprising 4.5 kg and an extensively thorough cooling system to keep this monster chilled. But hey – what's a little more weight if you have all that power to compensate for it?



LAUNCH
OF THE
MONTH

Renovo Coupe

Electric cars have rarely ever had this kind of punch. Renovo is a very new company (2010) run out of Silicon Valley, and its first car, the 'Coupe' is indeed an impressive start. Wearing the high-flying banner of 'Drive the Revolution', Renovo's baby looks like the winner it is.

The Coupe is aimed at car lovers, collectors and hipsters alike simply for the

look it portrays. The car looks like a cross between a Mustang and a Jaguar. Its three high-voltage Renovo HVP 740-volt Lithium-Ion battery packs have a fast charging capability of 30 minutes, and take five hours for a full level 2 charge.

The Coupe has two sequential axial flux motors, which pump out about 500 HP with a monstrous 1350 Nm of torque. Not bad, at all, for an electric car.

The Coupe's chassis is the result of Renovo's modifications to the chassis of

an American Shelby CSX9000. Effectively modifying an old school American muscle car to look like a slick modern coupe with just a hint of classicism.

Driving down a highway in a completely silent muscle car might actually defeat the purpose of the design, but then again, when you're driving a car as gorgeous as this and being conscious of the environment at the same time, you're the new age bad boy!

Price: ₹3.25 crore (approx.)



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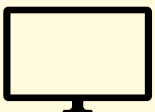
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Iron Sky Paolo Nutini

A song with all the makings of a rock anthem, Paolo Nutini's epic track is one of the few "music recommendations" you'll ever see in Digit. Its inclusion of Charlie Chaplin's famous speech from *The Great Dictator* is just the perfect embellishment to this otherwise soaring protest against totalitarian regimes clamping down on freedom.



Sonic Highways

When Dave Grohl decides to take you on a trip through popular music history and how it shaped the music of



Nirvana and the Foo Fighters (and other popular bands), you pack your bags and

head out. *Sonic Highways* is one of the best albums of the year and has songs recorded by the Foos in different studios, each representing a different part of music history. The one album from 2015 that you must listen to.

MOVIE

The Battle of the Five Armies

There will be blood – one way or another

Every now and then, there are times when the Digit team really have no time to watch the new movies in theatres. But considering there's a huge chunk of Tolkein buffs here, missing this movie was something that needed to be corrected. Immediately.

If you're a fan of the first two *Hobbit* movies, you may just want to skip this one and read the book instead. It may give you some clearer closure. If you're a Peter Jackson fan, however, this movie will be one huge *deja vu*. If there's ever been complaints about

Jackson and his approach to filmmaking, it has definitely had nothing to do with the way he depicts war. Because, in all honesty, the man really, really knows how to do war.

The *Five Armies* is not a movie one watches for a solid, crisp story. If you do, however, want to see orcs, humans, elves, dwarves and one lone hobbit in a huge-scale, extravagant battle in extreme detail – this is definitely the movie to watch on an IMAX screen.

Gorily beautiful visuals, great choreography (which couldn't have been easy amidst all that CG) and a



battle that truly gives form to the word 'epic'.

Prakrit Dhandiyal

MOVIE

Free to Play

A documentary worth watching especially for digit readers



Made by Valve, *Free to Play* is a documentary about the 2013 *The International*, the competitive tournament where *Dota 2* players from all around the world gather to play against each other and take home a million dollar prize.

However, *Free to Play* is not a mere highlights reel of the tournament but it also

takes a deep interest in the players that have left their lives behind to take part in the tournament. If you are a modern gamer, want to know what it means to be one, or want your eyes opened to the burgeoning world of e-sports watch this documentary. We've given it several times before in our DVDs so dig them out and enjoy.

Nikhil Pradhan



Sony Smart B-Trainer
Sony's new Smart B-Trainer is a prime example of next gen wearables. Although they look like any other standard wireless workout headphones, they can measure your heart rate, give you voice commands for training and more.



Parrot RNB6
Parrot is no new entrant in the head units for cars. Their latest offering, a 2 DIN head unit chock full of features with a leaning towards safety is the winner of two CES Awards. It can accept a wide range of accessories like dash cams



OneWheel
Skateboarding takes a motorized turn with OneWheel and a fun one at that. This unconventional looking mode of transportation features a single wheel at the centre with a rolling balance that allows it to balance itself for a hands-free ride!



Float like a bluetooth speaker

Admit it, magnets are cool. They've been cool since we were kids and now, Axxess CE, has unveiled a bluetooth speaker that levitates. Dubbed the Air*2 (Air Squared), the bluetooth speaker has a playback time of 10 hours. Did we mention you can stick on your fridge and listen to some tunes too?



Flex Your Brain Muscles

Just like any other part of the human body, the brain can be trained to do amazing things too. The Muse headband's built-in sensors track electrical signals in your brain and run you through simple exercises. By the end of a few sessions attention span is supposed to improve significantly.

TV SERIES

Black Mirror

The technological abyss



Most science fiction tend to take an extreme stance on technology, for instance, Minority Report is all about the pitfalls when you completely trust technology to rule society. On the other hand, Star Trek (both the movies and the TV shows) have a more optimistic take on technology and how it can be used to take humanity forward. Black Mirror, a British TV show, takes the middle road, and looks at how technology can be both a boon or bane.

The show adopts an anthological approach to its stories, similar to shows like The Twilight Zone. Every episode is a self contained story that looks at how technology takes over the lives of its protagonists. The show itself gets its name from the black mirror we're all familiar with - the obsidian face of our smart-phones. Through its episodes, Black Mirror tackles a bunch of topics with technology as a central element of the plot. The first episode, 'The National Anthem' is about a popular British royal's abduction and the subsequent demand by the kidnapper that the British Prime Minister engage in an R-rated act on live TV.

Another episode, 'The Entire History of You', is a bleak but enthralling episode about a couple whose marriage comes under stress because of a gadget that they use. The gadget- the 'Grain' - is being used by almost everybody in society and is essentially a hard drive connected directly to your eyes that lets you rewind and relive any memory.

If you like your TV shows to have something to say, then Black Mirror should be essential viewing.

Nikhil Pradhan

No sleep

I'm tired, exhausted. Been sitting at my PC for 60 hours straight. No sleep, no food, no interruptions. What I was doing when I sat down in front of the keyboard is a distant memory, long forgotten. My body aches, my eyes dart back and forth to my bedroom door as if they have a life of their own. I'm tired beyond my wits and for the life of me I can't understand why I can't just nod off and fall unconscious. This is no Red Bull or coffee that's keeping me awake. It's something far more twisted. I can feel it.

Suddenly, my fingers started typing furiously onto the keyboard. "This is strange and weird at the same time, isn't it?"

"Yes. It is." My eyes widened in horror as my brain processed what had just happened. I remembered my fingers dancing on the keyboard mechanically, but that wasn't me who was answering back.

"Who are you? What are you?" A flood of queries escaped me, as I teetered at the edge of consciousness, unsure if I'd ever awake from this nightmare. "What is it that you want from me?"

"Come closer. I will show." Before I understood what I was supposed to do, my head started drooping towards my computer's screen, my eyes wide open. There was no trace of sleep or tiredness in them, as I shook uncontrollably in my chair, feeling an uncomfortable warmth spreading down my inner thigh.

My face was now barely an inch away from my PC's display as it started flickering like a dying light bulb. I was beyond myself with fear at this point. In a blinding flash, the monitor switched off, and so did the rest off my room's light as I was bathed in darkness.

I saw it then. An image of me with a hideous grin, it's burnt into my eyes. Then I blanked out.

"The end? Who do you think is typing this?"
<http://www.reddit.com/r/nosleep/>





Zuta Pocket Printer

Printing can be a chore at times, and don't we all hate sacrificing trees to hurt someone's eco-sensitivities? But sometimes you gotta do what you gotta do – print some documents. And if you're on the road, no need to stop by a photocopy center when you have the Zuta Pocket Printer around. It's so small, it's only 350g and 3-inches tall, easily able to fit in your palm; and rather than fill paper in it, this tiny printer actually traverses a piece of paper on a flat surface and prints out a document. It connects to any device over Wi-Fi, allowing you to print directly through smartphone, tablet, laptop and PC. Definitive details on its print run aren't forthcoming yet, but for \$199, this isn't expensive for its novelty value.

Innovative gadgets to get your drool on

Scannify

We've featured a lot of 3D printers within these pages over the months but this is the very first 3D scanner that's caught our attention. It works much like a regular digital camera – with the only difference being it can capture and scan most 3D surfaces as easily as clicking a 'photo'. Scan things like faces, body parts, fabrics, plants, leaves, wood, food, textured painting, and much much more! In great detail, too. This Fuel3D scanner helps import any scanned image in a compatible software application to manipulate or tweak the scanned 3D image. Much fun to be had with this one, even so much as to hook it up to a 3D printer and print out a miniature toy. The possibilities are mind-boggling.





Things to know: Win10

Read this to know everything that you should about the new Windows 10 Technical Preview: http://dgit.in/Win10_TP



Gold controllers sold out

24 Karat gold Xbox One and Playstation 4 controllers available for \$300 a pop were sold out. There were 25 pieces of each available. http://dgit.in/24K_Gon

Drool maal

Swiftpoint GT

When it comes to refining the good old PC mouse, plenty of crazy gadget contraptions have been passed off as 'innovative' input solutions, and they don't appear to be half as useful as their claim. But there's something about the Swiftpoint GT that makes you believe it's a cut above the rest, that it's the real deal – not a pretender. It's a small-ish mouse that claims to run on any surface – even your leg! – and it has an ergonomic pen-grip design with a touch-sensitive input. Not only does this mouse let you flick or swipe effectively, but apart from supporting Windows and Mac it also supports iOS and Android devices, letting you effectively use one device for all your smart gadgets. Definitely seems like a "shut up and take my money" kinda device this.



Bragi Dash

If last year saw the onset of the smartwatch wave among wearable devices, 2015 is certainly going to witness a first of its kind – wireless earphones. That's right, those tiny, ear-canal, ear-cavity residing speakers with no wires. Leading the pack right now is Dash (from Bragi), which manages to not just be wireless earphones to begin with but deliver a whole host of features that makes it a great early adopter device. It connects over Bluetooth to your phone, has 4GB of storage and an inbuilt music player (effectively making it an MP3 player in an earbud!), and has fitness tracking sensors fitted inside it, too, like a heart rate monitor (for instance). Just for music? Not a chance.



Adidas SmartBall

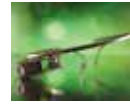
From the outside, this football from Adidas looks like a standard Size 5 ball to kick around. But inside, it has a suspended sensor which analyzes a variety of measurements. It lets you determine the force of your kick, ball spin, kick point and ball trajectory. The ball relays all this information to an iPhone app (miCoach Smart Ball) over Bluetooth. Even if you kick the ball against a wall in your building complex, this app can help you visualize your ball trajectory regardless. The app also has a coaching assistant built in to help you master your footballing skills. Makes sense for any serious football enthusiast looking to take their game to the next level.





Mega wearables list

Probably one of the best compiled list we have come across, of all the wearables seen at CES 2015. <http://dgit.in/WearableDev>



The future looks bleak

Though there were many new concepts introduced to wearable technology, it's future's uncertain. <http://dgit.in/UncertFut>

Are we there yet?

From “the next big thing” to a proper product category in its own right, could 2015 finally be the year wearables really take off? (no pun intended) Let's find out...

Abhijit Dey

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It's been a long time since we saw Pranav Mistry demonstrate his Sixth Sense wearable tech at that now fateful TED Talk. The year was 2009 to be precise and what we saw, we really wanted; the promise was so appealing. Considering it's been five years – in technology that's an epoch – by now we should've all been gesturing our way through life and our attire should have made The Borg feel perfectly at home around us. Somehow that hasn't happened and the wearables as a category hasn't lived up to the hype. All we have with us today are a few fitness bands and smartwatches that regular people have just about started adopting.

What took so long

Wearable devices have been the rage since a couple of years now, but after all this time, it hasn't become mainstream yet. When the storm of wearables arrived, the market was flooded with devices that were intended for the mostly fitness enthusiasts, in the form of health trackers. Somehow the industry was constrained into thinking wearables are something that you only wear on your wrist. But once the concepts of wearable technology and Internet of Things came across each other, it gave rise to an infinite number of possibilities to



Garmin Fenix 3 is a rugged smartwatch for the adventurous kind

wearable devices. Wearables took a considerably long time to hit its current stage, the reason still being unclear. The technology involved in them was allegedly very nascent initially, and hadn't matured enough. The modules and sensors that are incorporated now in wearable devices have drastically dropped in size, and have reached acceptable levels of efficiency. Another likely reason could be that the manufacturing process of such wearable devices wasn't economical enough

until now, and companies have finally come across technologies that make the entire process of building a wearable device more practical and profitable.

Why will we be seeing more wearables this year

For a couple of years, we have been observing wearable devices grow from its early years, and the device categories haven't reached a mainstream point yet. Wearables now only include devices that do simple tasks, tracking certain activities like the number of steps you've taken, your heartbeat rate, calories burned, etc. Smartwatches and smart glasses went viral where everyone started manufacturing one, but again there isn't a perfect iteration by anyone. Wearables completely took over the booths at CES 2015, indicating that more and more manufacturers are showing their interest in wearable tech. Clearly, such devices have a huge potential in the health and medical field. To make things easier and competitive, Apple, Google and Microsoft have already released their health platforms, that uses all the collected data from wearables tracking your health and aggregating them together, measuring your health condition.

At CES 2015, Intel introduced a prototype of their Curie module, a really tiny microcomputer that could be used to create a broad range of wearable devices, across many form factors including



Infographic on wearables

2015 could finally be the year of wearables, and here's a an infographic on the forecast of wearables by CSS Insights
<http://dgit.in/WearableInfog>

Geek life



Ringly is a stylish ring that sends you customized notifications


rings, bracelets, bags, pendants and buttons too. It brings wireless connectivity to wearables and it comes equipped with Bluetooth Low Energy radio, six-axis sensor with accelerometer and gyroscope, pattern matching accelerator for accurate gesture recognition, battery charging technologies as well as 384kB of flash memory, all the basic things that run a wearable device. The Curie is based on the new Quark chip, the Quark SE SoC, which is the company's first purpose-built system on a chip for wearables. It runs on an open source software, Viper that can gather the information to use it for activity recognition and step tracking. The new microcomputer is intended for "always-on" applications in the field of social media, sports and fitness, and the module will be available in the second half of 2015.

With the release of Curie, Intel officially enters into the wearables space, where Qualcomm has already have their own system on a chip for wearable devices. As new product designers explore new areas from the fields of sports, fashion and travel, they are going to eventually incorporate these computer technologies into their products. Intel wants companies to have a product that takes away the complicated bit of developing a wearable device which is usually designing tiny circuit boards or tweaking up the connectivity to other

devices through Blue-tooth. The companies as of now have been sourcing components and software from many different sources or have been developing them in-house, both of which take up a lot of time for even the first prototype to be created. So along with the module, Intel is going to provide its partners with the Intel IQ Software Kit that comes with embedded software that have modules containing smartphone companions and associated cloud capabilities. The kits will

possibly help the companies developing these products in packing the required functionality into their wearable devices. Intel has already been making sensors for wearable devices for over a year now and with Curie, they seem to be wanting to speed up the development, so we could be expecting a horde of Curie-powered wearables once the module starts shipping later this year.

Among all the companies manufacturing wearables, the industry has its eyes set on what Apple would be coming out with, after the unveiling of Apple Watch earlier last year. Even if they aren't capable of making something impressive, it will still be the most talked about gadget throughout the year, only because it's from Apple.

We have seen many interesting concepts surrounding wearables lately. For example, TempTraq is a Bluetooth patch that can send your temperature to your smartphone or AmpStrip that sticks to your chest and sends vital stats to your smartphone. There are numerous concepts and prototypes spread across Kickstarter and other crowd-funding services, and also in labs, but wearables at this stage need to be a polished product, and should be made to go mainstream. One thing to consider is that wearable devices need to be desirable and useful and not just a status symbol. More simple, functional than fashionable. 

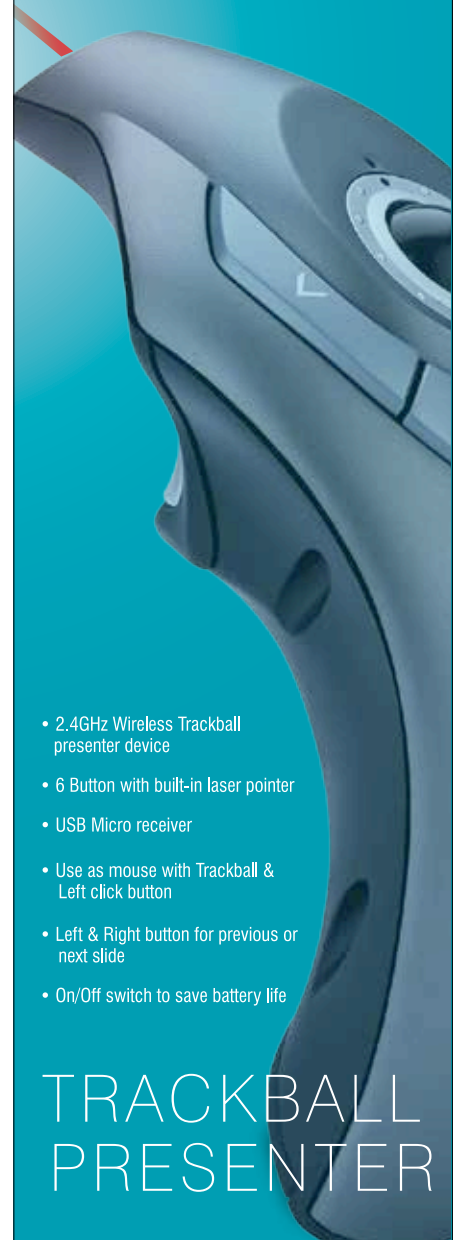


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Commuting to space

... soon a reality

Tuba Raqshan
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Mankind has always had a deep fascination for the stars and planets. A strong belief in astrology and the acceptance that planetary changes affect one's fate to the curiosity of finding out what lies beyond the stratosphere - space has always been the final frontier. But will travel into that great infinity that is space and witness the wonders of the universe? Well, soon! Looking at the bustling activity in the space corridors of power, commercial space travel may soon be the real deal. Virgin Galactic has already announced that they plan to start a round trip service to the outer space. What's more, they are in the process of building the first ever spaceport for commercial space transport. And, with a fleet of SpaceShipTwo reusable space vehicles on standby, outer space may soon become the new travel destination of choice.

LONG WAY TO SPACE

However, soon may not really be soon enough. Despite breakthroughs in the field, many technical and logistical challenges still need to be ironed out. For instance, the biggest challenge surrounding commercial space travel is the lack of reusable space vehicles. The chequered past of reusable spacecraft is an indication that there's still some time to get the space act right. The 1990s witnessed a slew of companies, rushing in to get a piece of the space pie. Many startups appeared to create reusable launch vehicles (RLVs) but



XCOR's Lynx Mark I is scheduled for flight testing this year

the stiff standards and competition coupled with poor management and flawed design saw many fall by the wayside or go into a limbo. The failure of Nasa's X-33 and X-34 missions also didn't help the cause. After a few years of hesitation, the commercial space travel plan is back on track with a lot more research and attempts are creating reusable space vehicles, to reduce the cost of operations in the long run.

Companies like XCOR Aerospace and The Spaceship Company are creating cutting edge reusable spacecraft models and some of it's currently being tested. All eyes are on the Orion Multipurpose Crew Vehicle, the first reusable space vehicle by NASA after their Spaceshuttle was retired in 2011. The Orion has an impressive spec sheet and builds on the Spaceshuttle design and technology. The "green" spacecraft is built to carry crew to space, provide emergency abort capabilities,

sustain the crew and provide a safe return to Earth. The first flight test was done on 5 December 2014, where the unmanned Orion was launched atop the Delta IV Heavy rocket from Cape Canaveral's Air Force Station's Space Launch Complex 37. The spacecraft was loaded with almost 1,200 sensors and it completed a successful 4.5 hour flight. In the future, Orion will be launched on Nasa's new heavy-lift rocket, the Space Launch System.

X-RATED

Yet another spacecraft that is the subject of much conversation is the XCOR Lynx, a suborbital horizontal-takeoff, horizontal-landing (HTHL) spaceplane that is currently being developed by XCOR Aerospace, a California-based company. XCOR says that the Lynx can reportedly fly four or more times in a day and can even deliver payloads in space. The Lynx



King of Thieves

Zeptolab, the creators of Cut The Rope are going to launch King of Thieves - a new platformer with multiplayer capabilities. http://dgit.in/King_TH



DirectX 12 better?

Microsoft recently claimed that the upcoming DirectX 12 will perform almost 50% better than DirectX 11. <http://dgit.in/DX12Better>

Space Age

can carry one pilot, a ticketed passenger and a payload above an altitude of 100 km. The concept has been discussed since 2003, when the organisation announced a two-person suborbital spaceplane called Xerus. But concrete reports are rare. Lynx, which was announced on March 26, 2008, planned an operational vehicle within two years. But the building process of the Lynx Mark I didn't commence till September 2013. Currently, we hear that fabrication and assembly of the Lynx Mark I is underway. The first flight testing of Mark I will take place sometime this year and only later will the Mark II's production be underway. We have our fingers crossed for this one!

SPACING OUT IN 2015

2015 will also be a crucial year for SpaceShip Two, especially after the disastrous flight testing last year. The Spaceship Two VSS Enterprise crashed due to an in-flight break-up during a powered flight test on October 31, 2014 and the accident is still under investigation. The test flights are scheduled to restart again this year with the second Spaceship Two spacecraft. It has a capacity for carrying six passengers and two crew members. Since the announcement of Virgin Galactic's commercial space travel service, it has received more than 400 paid passengers, each of which was snagged by paying an astronomical sum of 250,000 USD! Once the service is operational, passengers can go on a trip to space that will last for two and a half hours, though only a few minutes of the flight time would actually be spent in outer space.

The New Shepard spacecraft by Blue Origin is yet another vehicle that will take astronauts to space on suborbital jour-



After the horrific crash of SpaceShip Two in 2014, all eyes are on flight tests of SpaceShip Two VSS Voyager this year

neys. This spacecraft has a crew capsule that can carry three or more astronauts and would be launched by a separate rocket powered Propulsion Module. After launch, the crew capsule would coast along the edge of space and get a ringside view of the Earth. The New Shepard also has researchers excited, as they can now run experiments in space or a microgravity environment. The Blue Origin team ran the first test of the suborbital crew capsule escape system in 2012 with positive results. But from then on, little progress has been seen.

JUST AROUND THE CORNER

Sierra Nevada Corporation (SNC) space systems' Dream Chaser spacecraft has also been under production. This reusable, crewed, suborbital and orbital space plane can carry up to seven people and would be launched on the Atlas V rocket. The cutting edge design has an in-built launch escape system and the spacecraft can even fly autonomously. This promising spacecraft lands horizontally, much like an airplane, unlike other spacecrafts that require a parachute-aided water landing.

The first free-flight of the Dream Chaser took place on 26 October 2013 and the spacecraft flew along the correct flight path before crash landing. The initial orbital test flight of this spacecraft will take place in 2016.

INDIA'S LEAP INTO SPACE

As the race to create the ultimate reusable space vehicle heats up, India isn't content to just sit and watch. After the very successful Mangalyaan launch, the Indian Space Research Organisation (ISRO) had recently announced that they would fly a reusable launch vehicle (RLV) in March. This technology demonstration could be the first step towards grappling with one of the biggest challenges of space commute, viz, building reusable space vehicles. The reusable vehicle will be deployed from Sriharikota and will fly for a short time before its launch and subsequent descent. The vehicle would waterland since India lacks a runway that is long enough. India currently spends 300 cr INR for satellite launches and using reusable space vehicles is sure to cut costs tenfold.

BEYOND THE BLIMP

The future of reusable space vehicles seems obscure, much like the idea itself. While many organisations are looking for a sustainable option, the high costs involved with creating and testing these spacecrafts and the fact that the success rate has been incredibly low are deterring many from venturing into this realm. But the way forward, especially when it comes to commercial space travel, lies with reusable space vehicles. But until one such model is successfully launched, our dreams of space travel may remain just that. **d**



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Bye Club Nintendo!

After six years from its inception, Nintendo announced its plan to discontinue its loyalty based Club Nintendo Rewards program. <http://dgit.in/ClubNin>

GTX 960 launched

Gamers rejoice! Nvidia has finally launched the GTX 960 that hits the fabled "sweet spot". Read its review in the Bazaar section. http://dgit.in/GTX_960

What will motoring be like in the near future?

As much as we'd wish it were so, car tech around the corner may not involve flying cars and levitating capsules. But realistic visions of the future are strangely more exciting. Don't believe us? Read on...

Nachiket Mhatre
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If you genuinely understand automotive engineering and technology, there's a good chance that you might find it hard to take any of the futuristic concepts showcased at auto shows seriously. It's the same story every year – auto expos unveiling outlandish ideas touted to revolutionise the motor car as we know it. Yet, the cars that we all drive have remained largely unchanged, save for a few bells and whistles such as keyless entry and voice-activated stereos. Then again, it's hard to improve upon a technology that has been perfected through well over a century of collective human effort.

The electric car is an excellent example illustrating just that. For all practical purposes, it is an unmitigated failure unless paired with an internal combustion engine in a hybrid configuration. Unless, of course, you fancy range anxiety and waiting several hours for a recharge each time the battery runs out. Now, if you plan on arguing about the ecological impact of the internal combustion engine, let's not forget that fact that manufacturing the massive battery pack powering an electric car involves a terrible cocktail of toxic chemicals and a much larger carbon footprint.

More importantly, most of India's electric power generation depends on fossil fuels. So each time you recharge an electric car, do remember that there's no such thing as zero emissions. Now that we have established that electric cars – like most other fancy automotive concepts – are either outright rubbish or simply unten-

able, let's take a look at car tech that may not necessarily seem flashy at the outset, but still has a greater chance of making a difference to the modern car.

Autonomous Vehicles

If there's one thing more powerful than the human desire for excellence and innovation, it's our inherent laziness. That's probably why most science-fiction films are chock full of self-driven cars

ling record of 14 vehicular fatalities per hour. These are statistics recorded in the year 2009, while the fatality rate has been growing at a steady 8 percent over the past decade. As such, India is in dire need of self-driven cars. Either that, or it would probably be a bad idea given our problem with population explosion. It's hard to tell, so you be the judge.

Coming back to the Google Driverless Car project, the endeavour isn't just designed to allow the company to record images of the road, map the streets, and steal our data through home Wi-Fi networks. These prototypes don't stop at the usual array of laser and radar sensors, as well as image-recognition systems. Google



The Honda FCV concept. Beats our politicians promise of water and power by a few years.

levitating several feet in the air even as the passengers drink champagne in the back. Although we're not sure about the levitation bit, several auto manufacturers have been running prototype autonomous vehicles for a while now. As a matter of fact, even non-auto companies have been doing the same.

Case in point: Google's driverless car project has a fleet of robot cars that have cumulatively logged over one lakh kilometres, as of 2014. All that, without killing a single person. That sure beats India's ster-

takes a more network-centric approach that ties in with its existing web-enabled services to "see" and react well beyond visual and sensor range. These smart cars will be able to make the best possible choice according to data on traffic conditions and their ability to synchronise with, say, traffic lights unlike any human or machine for that matter.

It isn't just about safety or optimal navigation. Networked autonomous cars will be able to communicate with one another to perform manoeuvres such as



X-Games is using drones

The current winter X-Games are being filmed with a drone and ESPN may be the first international network doing so. <http://dgit.in/DroneCam>

Lunar XPrice Winners

Over \$5.25 million has been awarded to the five winning teams of Google's Lunar XPrize and \$30 million are still up for grabs. More here: <http://dgit.in/GLXPrize>

Tomorrow's tech

platooning, where multiple vehicles drive close together as single unit. Anyone who has used the Google Now service can imagine how the self-learning feature would trickle down to the company's cars. The key aspect here is efficiency. Autonomous vehicles will ferry you around faster while burning less fuel. On the flip side, a few of us still enjoy driving. Then there's the possibility that self-driven cars would be a hit with the jihadists, who would appreciate the option of taking the suicide bit out of suicide car bombing.

Hydrogen Fuel Cell Powered Cars

A hydrogen fuel cell powered car is, by far, the most revolutionary and disruptive new technology on the horizon. It even sounds perfect – as perfect as the mythical cold fusion to be honest. Consider Honda's FCV hydrogen car concept. It's a full-sized sedan that promises 480 kilometres on a single tank of hydrogen, with a refuelling time of five minutes and pure distilled water being the only emission.

It can even use the fuel cell to power a typical American home for six days. That probably works out to around to six Indian homes for a year. Let's put it this way – this is the car that frees us from our dependence on oil, potentially solves our potable water problem, and even takes care of power shortage. It's hoped that unrestricted water and power will be a reality in Delhi by 2022, but Honda's FCV can pretty much deliver it right about now. Wait a minute, did we just vote the wrong entity to power?

Honda's FCV isn't just a pipe dream. The car is scheduled to go on sale in Japan by next year. In fact, the Japan aims to put 6,000 fuel cell cars on the road by 2020 Olympics in co-operation with Honda and Toyota. The city of Tokyo has already earmarked \$385 million for the project. The question is: why hasn't the world ditched petrol for this apparent holy grail of renewable energy already?

Although hydrogen is considered the most plausible replacement for fossil fuels and the fact that it exists abundantly in nature, pure hydrogen doesn't occur naturally. Synthesising it is an expensive affair at the moment. More than 95



Let's all pray that hackers aren't able to relay seizureandy.com on our windscreens

percent of current hydrogen synthesis is driven by methane. The remaining five percent comes from renewable sources such as wind turbines, but that's inherently expensive at the moment.

However, the good news is that the cost of a fuel cell had fallen by 80 percent over an eight-year period and efforts are on to reduce dependence on fossil fuels for hydrogen synthesis.

Augmented Reality Enhanced Head-up Displays

A Head-Up Display is a term describing any device that relays information to the user's field of vision by the means of a collimator. The very first form of an

HUD was introduced as a German rifle sight. This was way back in the 1900s. In fact, Britain already had a working HUD implementation in its prototype fighter jets in the '50s.

Surprisingly, most commercial aircrafts have been undergoing certifications for HUD integration only in the last few years. That's about six decades after it was introduced in military fighter aircraft. Even the US Space Shuttle received the addition only recently.

The good news is that the technology is expected to trickle down to the humble car in a rather spectacular fashion. Anyone who had played combat flight simulators, or rather any videogame for that matter



Autonomous cars: the final frontier in the human pursuit of laziness.



First flight

Come March, a solar powered airplane named Solar Impulse 2 will make a first-of-its-kind flight around the world covering 21,748 miles. <http://dgit.in/FSolarF>

Apple is to blame

The Nexus 6 was supposed to have a fingerprint sensor at the back. Read why it wasn't put in and how it's Apple's fault: <http://dgit.in/NexusSen>

knows the worth of a HUD. Relaying critical flight data in the pilot's field of vision not only makes flight stress free, but it reduces information saturation/overload and can save precious seconds during emergency manoeuvres.

Modern automotive HUD implementations are poised to do just that, and more, by incorporating the latest in augmented reality (AR) technology.

While most top auto manufacturers have implemented some basic form of an HUD that's generally restricted to relaying critical information, BMW has been working hard towards imbuing HUDs with the limitless possibilities of AR technology.

The German auto giant has been busy testing prototypes that overlay information on top of what the driver can see through the windscreen. This includes real-time visual warnings for drivers who are in danger of hitting obstacles and other vehicles.

Throw a GPS into the mix and you're looking at turn-by-turn navigation relayed right onto your windscreen. What you have is a GPS system that colour codes and highlights entire lanes to create a breadcrumb trail-based GPS navigation system that's simple enough to be followed by your grandparents.

Other implementations employ a smart array of optical sensors to detect road hazards and enhance their outlines through the HUD. This could prevent accidents even in low visibility conditions.

While that may seem like a glorified Windows Accessibility Option for cars, it still could potentially save lives. BMW is also working on another project that leverages AR technology for service technicians.

The company's prototype AR glasses allow them to diagnose problems and receive step-by-step instruction for fixing the same, just by looking at a malfunctioning car component. However, if you ask me, a much simpler solution would be to hire qualified technicians who don't need an overpriced digital equivalent of 'Fixing Cars for Dummies'.

BMW's far eastern counterpart, Toyota, has also been showing interest in AR HUDs. The company has gone a step

further to redefine domain of the technology from mere utility to leisure. The Japanese approach extends this concept to benefit the passengers. The company has produced working prototypes of HUDs integrated into passenger windows, which allow them to select, identify, and zoom in on objects in the scenery. The best part is that, unlike the driver, passengers can't be distracted into a ditch. This allows the integration of touchscreen functionality onto the AR windscreens.

However, that's going to look terribly rude when pedestrians wonder why

cisely why supercar maker Koenigsegg chose to 3D print the turbocharger for its flagship One:1 hypercar, which resulted in significantly improved performance.

However, precision isn't the only criterion going for 3D printing technology. An additive process is inherently more efficient at using raw materials, unlike CNC machining where a great deal of material is wasted.

This allows the manufacturing process to be scaled to an unprecedented extent. US-based Local Motors is a fine example the technology's game-changing potential.



3D-printed cars are poised to get cheaper.


you've been frantically pointing at them from the passenger seat for no apparent reason. Then again, it won't be a big deal in Japan, where things aren't considered weird until tentacles are involved.

3D-Printed Cars

Most people's idea of 3D printing is restricted to a simplistic version where they believe it's a means to make "real" 3D objects appear out of thin air. While that's technically correct, it still fails to convey the game-changing potential of the technology with respect to the auto industry.

To fully understand its impact, it's best to compare 3D printing with its older cousin – CNC machining. The latter is a subtractive process wherein material is removed to create 3D objects. This fabrication method cannot produce certain complicated shapes, unlike an additive process such as 3D printing. That's pre-

It recently built a working car right on the floor of the 2015 North American International Auto Show to prove a point. Even if you exclude the manufacturing costs, the manufacturer estimates that its concept of 3D printing-enabled "micro-factories" result in a whopping 97 percent savings in auto freight and distribution costs alone in relation to what a typical auto manufacturer will pay.

This isn't restricted to auto companies. Further advancements and cost reduction in the technology could herald a future where you could be downloading car parts and modifications right off the internet to print out at your local 3D printer, or possibly even from the comfort of your own house. However, if video game mods available on the internet are any indication, brace yourself for a future where you could have the misfortune of witnessing phallic symbolism on our "clean" roads. 

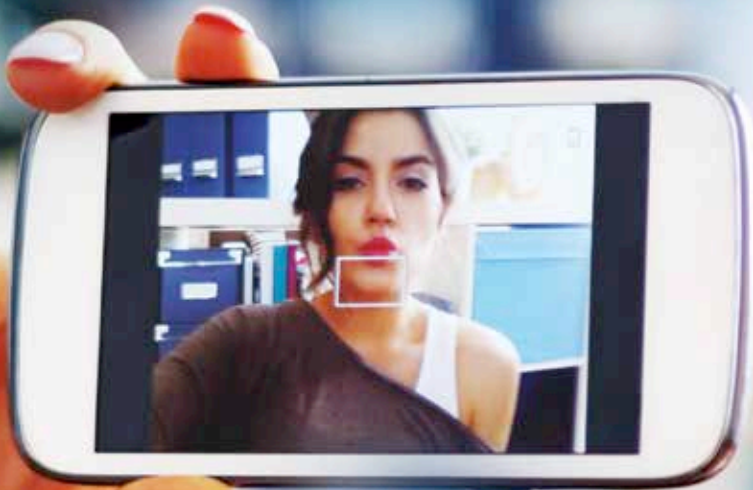
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Surprising fishcovery

Drilling through 2,430 feet of Antarctic ice has revealed that there is a thriving population of fish beneath, instead of just microbes. <http://dgit.in/SurFish>



Say Cheese. 'Tis Selfie Season!

Everyone and their grandma's obsessed with selfies. We compare the best selfie phones in the market to tell you which ones do most justice to your face.

Prasid Banerjee
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In the year 2014, three important things happened – Narendra Modi became the Prime Minister of India, the country achieved the cheapest Mars mission in the history of human space flight and selfies became a fad. Heck, the word even got inducted into the Oxford English Dictionary last year.

Now that we've got the shameless sensationalism out of the way and hopefully caught your attention, let's get to the task at hand. The smartphone universe has come a long way since its inception about a decade ago, to the point where upgrades are

Copter rovers?

Since driving on Mars is difficult, NASA's working on mini rover copters that can fly to provide a better view. <http://dgit.in/CopterRover>



Samsung Apple BFFs

Recent reports indicate that Samsung-made SoCs will power the next generation of Apple's iPhone. http://dgit.in/App_Sung

incremental and there's not much new to sell a device on. Enter selfies. The front camera, which used to be nothing more than a number on the specification sheet has suddenly taken centre stage, becoming big, both literally and figuratively. It has become an important marketing weapon for companies to pitch their smartphones to a selfie-obsessed public.

Login to Facebook and your news feed is flooded with people making faces that ducks never would, but there's no shame. Selfies are a thing. Meet a celebrity and you no longer ask for a picture with them, you ask for a selfie. Or maybe you've met your old friends after a long time, what

do you do? Yes, of course, it's time for a 'groupie'.

Just like the term 'phablet' was once coined in order to explain big screen phones, the term 'selfie' has been devised, as a way to sell more phones. And why not?

It's not wrong either, after all, why shouldn't the front camera be important. Why should it remain a gimmick, when it can be put to more use? The smartphone camera has all but replaced traditional cameras today, so why should the two cameras together not deal the final blow to point-n-shoot cameras? Well, it's happening as we speak. Selfies are only the beginning and it's only a matter of time till people

realise that it can be put to a lot of use.

For example, a good front facing camera can be a great tool for those who make their own podcasts. It can also be a very good tool for making video resumes. The applications will come up with time.

With all that said, it is evident that the front camera, or the 'selfie' camera as many call it, is a very important part of a phone's specification list right now, which means, it is an opportune time to compare these phones based on that. So, as we've done often in the past, we went ahead and called up the companies that make these devices. We told them we were doing this shootout

and would be needing the best that they could offer. Seven of them obliged.

The result is as follows.

Lava Iris X5

Beginning with the cheapest device amongst the lot, the Lava Iris X5 is amongst the cheapest selfie smartphones available today. It has a 5MP front camera, with a BSI sensor and an f/2.2 aperture. Other specs include a 1.2 Ghz quad-core processor, 1GB of RAM, a 5 inch HD display and an 8MP rear camera.

The Iris X5 actually started out very well, with images taken under optimal light conditions, that is, outdoor sunlight. Images taken were

HOW WE TESTED

Right at the offset, let's make it clear that this comparison was based on the front camera performance of the smartphones used. 70 per cent of the weightage was given to the front camera performance and other aspects that affect it, the other 30 per cent went to other features. More on that in a minute.

So as we were saying, we told the companies we needed their devices for a selfie shootout. It was up to them to decide which phone they would want competing. We received the HTC Desire Eye, Sony Xperia C3, Nokia (Microsoft) Lumia 730, Oppo N1 Mini, Gionee Elife E7, Lava Iris X5 and the Moto X (2nd Gen). Yes, that last one confused us too, but that too shall be explained later.

As mentioned above, this test was predominantly about the front camera, so we took into consideration the image quality, including things like the sharpness of the image, colour reproduction, white balance etc. All this was tested in indoor lighting conditions (fluorescent or tubelights), outdoor sunlight and low light conditions.

We also took into consideration the various selfie apps that OEMs put into their devices today, marking them for ease of use, number of features and how much control they give

you over the finished product that you will get from the camera.

Next came features like voice controlled selfies or other equivalent features, which would make it easier to take a selfie. Voice control over the front camera for example, would ensure that your device doesn't move when you're trying to press the on-screen shutter button. The same is achieved, albeit to a lesser degree, when a separate camera shutter button is present on the phone. Alternatively, a phone may even have features where it automatically recognises when to take a selfie. All this was rated with respect to how effective they were and how easy or difficult it made to take a selfie.

We also considered camera placement, with a centre position being the best for framing your image. The sensor type was also taken into consideration, since BSI sensors offer better low light photos than others.

Finally, 30 per cent of the ratings were based on the CPU Speed, number of cores, RAM and other features of the devices. These features can affect how fast you can open the camera app when you need it, the processing time once the image has been clicked etc. Some marks were also given for the amount

of storage that the devices had and whether they supported Cloud Storage or offered extra cloud storage, over and above what Google gives you anyway.

With all that said, there was only one element left to consider, that being the price. As you may have already noted, the phones mentioned above range from under ₹10,000 to above ₹30,000, which means they should ideally not be competing against each other. But, that doesn't matter, since the aim of this comparison is to establish the best selfie smartphone today, followed by the best buy.

So, the best performer is the one that can take the best images using the front camera, meant for those who have no budget concerns and simply want the best. The best buy on the other hand takes very good selfies, while also being affordable and providing good value for money. There will also be an editor's pick, for the phone that came close, but couldn't make it to the top in the self-obsessed selfie race.

Due to the difference in pricing, we'll be taking up each of the smartphones in the comparison and explaining their pros and cons individually, including why they could or could not make it to the top of the charts in this test.

Let's begin.

IMAX on a ship? Aye!

In a first of its kind attempt, the people at IMAX have upped their game and are putting an IMAX screen on a cruise ship. <http://dgit.in/TugTugWow>



Oh, Crop!

Head over to the link below to see some of the best graphic design puns for designers ever made. <http://dgit.in/DesHaHa>

Selfie Camera Phones



Lava Iris X5

sharp, with good details and white balance. However, this changed quickly when the weather was overcast. The Iris X5 seemed to lose the details, giving out pretty dark images. The performance deteriorated further with low light, where images looked dull with undersaturated colours. The white balance went for a toss, making a white background into off-white.

The performance scores were further affected by the fact that the camera took some time to get the focus right. In addition, the camera app is essentially stock Android, which offers not many features and next to no control over the image that you take. There is also no way to click the image, except to use the on-screen shutter button, which often made for an uncomfortable selfie taking experience.

You can tweak the ISO a little bit and control the con-

trast and sharpness to some extent, but none of it really helped us in taking a really good image with the Iris X5 when the light conditions were anything less than optimal.

You may say that the price tag of ₹8,499 justifies this, but we've reviewed the Yu Yureka and Xiaomi Redmi Note (not part of this comparison) before this and both those devices took better pictures than the Iris X5. Also, they also have 5MP cameras on the front, just like the Iris X5 and cost around the same.

The Iris X5's scores were further affected by its overall performance, which is below par. While it does have a 1.2 Ghz processor inside, there were often stutters in opening the camera app or while doing other stuff on the device. All in all, Lava hasn't done a bad job with this smartphone, but it's not enough to make it in this comparison, or in our list

of recommended smartphones to buy.

Nokia Lumia 730

A lot of companies have been taking the selfie smartphone seriously, but none more so than Microsoft. The company has gone out of its way to showcase the selfie taking capabilities of its Lumia 730 and Lumia 535 smartphones, even taking the 'world's largest groupie' in Bangladesh some months ago. The Lumia 730 was also amongst the last of the Lumias that Nokia was officially involved with.

When we reviewed it, we liked this device and even

wide-angle front camera, with f/2.4 aperture.

Under outdoor lighting conditions, this smartphone performed like a boss, replicating the natural greens of leaves and taking sharp and well detailed images. Even under indoor fluorescent lights and low light, the Lumia 730 never loses its white balance and is very consistent in representing colours accurately. It also has a wide enough lens to cover three people standing next to each other when the phone is in landscape mode.

The Achilles' heel of the 730 though is in its slow image processing time, espe-



Nokia Lumia 730

pitted its selfie taking capabilities against the Samsung Galaxy Note 4, where it came out over the Note 4 with flying colours. So, naturally, we had a lot of expectations from it. The Lumia 730 has a 5MP

cially when using the Lumia Selfie app. You have to wait a few seconds before the Lumia 730 is done processing the picture, which seems like a long time, compared even to the Iris X5 above. In addition, the 730

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Homeworld remastered

The entire collection of Homeworld - the popular classic has been remastered and is coming this month. <http://dgit.in/ReHoWld>



Crazy purchase

Sony's 20th anniversary edition of the PS4 with the serial no. 00001 has been sold for \$129,000. More here: http://dgit.in/Lim_PS4



Lava Iris X5



Nokia Lumia 730



Sony Xperia C3



Gionee Elife E7 Mini



Oppo N1 Mini



Moto X (2nd Gen)



HTC Desire Eye

What is a selfie smartphone shootout if we don't test and compare photos accurately? That's what we went about doing, for this particular story. If you guys are familiar with how we test cameras (digital cameras, in general), then you must know that we setup a test scene (with controlled lighting) and various 3D objects with different colours to provide a reasonable challenge to image capturing technologies. We applied the same principle to testing selfie cameras on phones this time around.

The essence of a test scene is to maintain uniform lighting conditions throughout the duration of testing. Selfie cameras were placed at a fixed distance from the subject plane, especially to test their wide angle lens performance. If you look at these images, you can see for yourself how different camera phones capture images differently. Some pictures are warm, others are neutral, while some are cool. Some cameras capture details better than others, while other capture light (white balance) better.

isn't the best when it comes to low light performance. While the colours remain accurate, images are darker and less detailed when taken under low light.

You also get no control over the image, except the filters for post processing of images. A good thing is the auto selfie feature, where you can use the rear 6.7MP camera on the Lumia 730 to shoot images. This allows you to point the rear camera at yourself, which then determines the right position for the camera and starts beeping when it is ready, taking the picture automatically. Sadly, this feature often

doesn't work, especially under low light.

Fortunately for Microsoft, the Lumia 730 is one of its better devices in terms of overall performance. In addition, the ₹14,999 price tag makes it very affordable as well and gives it a lot of points in our tests.

Sony Xperia C3

Microsoft and Samsung may have taken to the selfie trend like a duck to water, but Sony was one of the first to the market with a selfie oriented device. In fact, before Samsung ever spoke publicly about the Galaxy Note 4, Sony had



Sony Xperia C3



SSD prices to drop more

According to leading industry experts, we can expect 240GB SSDs to be available for as low as Rs.4300 in 2015.



HoloLens and gaming

What kind of changes can you expect in gaming with Microsoft's HoloLens? Read this to know: <http://dgit.in/HoloGaming>

Selfie Camera Phones

already launched the Xperia C3 as its selfie phablet.

The device has a 5MP front camera with an LED flash and a 5.5 inch HD display, which until very recently, made it the only selfie oriented phablet in the below 20k price segment. While the camera does well with the white balance and colours, it doesn't match up to the Lumia 730. The Xperia C3 often stutters with the white balance, putting a reddish hue in images. While we were able to get some very good looking shots out of this camera, it wasn't consistent.

The lack of consistency made us want more control over the camera, so that we could tweak things ourselves

and see if it could be made better. But Sony's camera app faltered here, being void of much useful front camera settings. This may not be true for Sony's high end devices, but in the Xperia C3, we were sadly left wanting for more.

The camera sometimes gave us very good images, while at other times, it was just the opposite – which was just plain surprising to us, to be honest. We could get some good low light images as well, but then again, we could not – everything would either be extremely good or below par. The inconsistency coupled with the fact that the Xperia C3 is priced just over the Lumia 730 cost it a lot of points in our comparison.



Gionee Elife E7 Mini

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PC in a mouse

A new concept christened Mouse-Box has emerged that has an ARM powered PC in the body of a mouse. <http://dgit.in/MouseBox>

RadioShack to go bankrupt

Business insiders predict that RadioShack - the electronic shop may file for bankruptcy this month. <http://dgit.in/RadioDown>

Gionee Elife E7 Mini

The first of the two rotatable cameras in this comparison, the Elife E7 Mini has tough shoes to fill after its big brother

Elife E7, which is a treat to camera lovers. The E7 Mini though has the spec sheet all worked out, with a rotatable 13MP camera, which means

it will have the same camera working as front and back – no second camera needed. Amongst all the devices mentioned in this comparison,

there are only three that have 13MP cameras, which doesn't necessarily make them good, but definitely raises the expectations from them.



	Nokia Lumia 730	HTC Desire Eye	Moto X (2nd Gen)	Oppo N1 Mini	Gionee Elife E7 Mini	Sony Xperia C3	Lava Iris X5
Price	₹14,999	₹35,999	₹31,999	₹25,222	₹17,400	₹16,199	₹8,499
Hardware							
Rear camera	6.7MP	13MP	13MP	Rotatable 13MP	Rotatable 13MP	8MP	8MP
Front camera	5MP	13MP	2.1MP	Same as above	Same as above	5MP	5MP
Front Built-In Flash	No	Yes	No	Yes	No	Yes	No
CPU speed	1.2Ghz	2.3Ghz	2.5Ghz	1.6Ghz	1.7Ghz	1.2Ghz	1.2Ghz
CPU cores	4	4	4	4	8	4	4
RAM	1GB	2GB	2GB	1GB	1GB	1GB	1GB
Display	4.7inch	5.2 inch	5.2 inch	5 inch	4.7 inch	5.5 inch	5 inch
Display resolution	720p	1080p	1080p	720p	720p	720p	720p
Display PPI	316	424	424	294	312	267	294
Testing Scores (70% Camera, 30% Rest)							
Overall Performance	63	90	82	54	55	53	50
Camera Performance	54.0625	64.375	54.5	41.04	41.6	42.2	43.25
Final Score after considering camera and other elements in the above mentioned ratio	81	98	92	72	70	70	65
Front Camera Scores							
Image quality (Out of 8)	6.5	7	6	6	5	5	6
Low light performance (Out of 8)	4.5	7	5	3.5	3	4	4.8
Focusing speed (Out of 6)	5	6	6	4	3.5	4	3
Video recording (Out of 3)	3	3	2.5	2	2	2	1.5

HyperX Savage

Kingston unveiled its new and fastest line of HyperX Savage SSDs at CES that will replace its current HyperX 3K series. <http://dgit.in/HyperSavage>



SteelSeries Sentry

SteelSeries, the gaming product manufacturer demoed its eye tracker christened Sentry during CES 2015. <http://dgit.in/SteelSentry>

Selfie Camera Phones



Oppo N1 Mini

Like the Iris X5 before this, the Elife E7 Mini kicked things off with a very good picture under sunlight. Sadly though, the E7 Mini couldn't come close, even to the Iris X5 in low light conditions. We couldn't get much more than a silhouette from the camera, when tested under low light.

The good thing about the E7 Mini though is that it offers a lot of options in the camera app. While none of this will really give you a lot of control over the camera, but the various modes for daylight, cloudy and incandescent lights, did help a little bit in getting better pictures. This is aided by the fact that the camera focuses fast and is quick to snap and process the image.

Also, the Elife E7 Mini, costs below 20k, making it comparatively affordable against the phones to be mentioned after this. Still, the camera on the E7 Mini is best if you take most of your images under optimal light conditions, but otherwise, for the most parts, both the Xperia C3 and Lumia 730 can easily

outshine it. The Iris X5 would have too, but the Gionee device is a better smartphone overall.

Oppo N1 Mini

Onto the second rotatable camera then, like the E7 Mini, the Oppo N1 Mini also has a 13MP rotatable camera with it. Right at the offset, we noticed that while the Gionee camera would rotate and get fixed at a point, the Oppo camera doesn't do so. It's a slight mistep, which would affect you if you're trying to place the phone somewhere, before taking the selfie. The camera may move, making it difficult to get the frame right.

The Oppo camera though allows for flash both when the camera is turned to the back or front, while the Gionee device didn't. You can make it work using third party apps, but the stock camera app provided by Gionee doesn't allow it.

The Oppo camera isn't bad, if only a little on the warmer side, but this would depend more on personal preference. If you do want your pictures to be slightly warm, then

you would like the images taken by this camera. Under outdoor lights and indoors, the camera gave us good details, with satisfactory, if not impressive, pictures.

However, the weakness again is in the low light performance. Images taken lacked fidelity and were a bit under-saturated. Using the flash gave us blown out images, which no one would be a fan of. Also, the camera app has no features except certain presets for the white balance.

You also have to use the shutter button on the screen to click the picture, as there are no other shutter options. Needless to say, it would have been a more useful addition than turning the shutter sound on and off.

Nevertheless, the Oppo N1 Mini still gives better pictures than the

Gionee Elife E7 Mini, which it should anyway, considering the higher price tag. At ₹25,222, this smartphone we found this smartphone wanting.

Moto X (2nd Gen)

When Motorola told us to use the new Moto X for this comparison, we were confused. We asked them if they understood what we were looking for, but they seemed adamant that the Moto X should be used, even pointing us to the company's campaigns around the device's 'thumb free' selfie feature. So, we went ahead with it and to our surprise, the Moto X came out as the dark horse in this comparison.

Under outdoor lighting, the camera's white balance and colour reproduction was as good as the Lumia 730 and the Moto X took clearer shots with its



Moto X (2nd Gen)



Thermaltake Core series

PC case design took a nice turn with Thermaltake's new line of Core series little cases big on cooling at CES 2015. http://dgit.in/Ttake_Core

Facebook Lite

In a bid to put Facebook on every device available, the company launched a lite app for low-end devices. http://dgit.in/FB_Lite

2.1 MP camera under low light, than the 730 did with its 5MP shooter. It did undersaturate the images very slightly under low light, but was much better than the Elife E7 Mini, Oppo N1 Mini, Xperia C3 and Iris X5.

This coupled with the fact that it is arguably the fastest out of the seven phones we compared, made the Moto X a big and pleasant surprise. Also, the phone is perhaps the only one today that can respond to voice competently and fast enough. The Lollipop upgrade has made the Moto

X's voice recognition faster, which means you can simply tell your phone to 'Take a selfie' and it will.

What it lacks however is in the app and features department. Being of the stock Android family, the Moto X's camera has no features whatsoever that you can use. You basically have to point the camera at yourself and take an image, with no



HTC Desire Eye

post or pre-production options available to you.

HTC Desire Eye

We've walked about rotatable cameras, wide angle cameras and front flashes, but HTC is having none of that. The company has gone ahead and put dual-13MP cameras on its selfie oriented Desire Eye smartphone. This means that the phone has two 13MP cameras,

one at the front and the other on the back. Both of these cameras have dual-LED flashes to accompany them.

The Desire Eye came out way ahead of all other devices in this comparison and for that matter, available today. The image quality, including the white balance and colour reproduction, sharpness and the wide angle coverage, were all better than the six other phones that we've just written about. Under low light, the phone showed the same effects as in other conditions, even with the flash on.

The only drawback that we found was that the Voice Selfie and Auto Selfie options in the camera app weren't quite accurate. The phone couldn't recognise our voice, till we added some accent to the word 'capture'. That said, there are other options in the camera that allows you more control over the image, which the other phones in this comparison didn't have.

Best Performer: HTC Desire Eye

With its 13MP front and back cameras and 2.3 Ghz Snapdragon 801 SoC, the HTC Desire

APPS TO IMPROVE YOUR SELFIES

Facetune: This photo editing app lets you improve every aspect of your picture. You can erase blemishes and emphasize your favorite features plus the app lets you make tons of changes with a swipe of your finger.

iTunes: <http://dgit.in/1EMQQKv>;

Google Play Store: <http://dgit.in/1CITzFw>

YouCam Perfect – Selfie Cam:

This app comes with an interesting automatic trim feature and other tools to manually remove wrinkles, eliminate dark areas of skin, or delete imperfections. You can even change forms, making your face look thinner, your eyes bigger and brighter, and even completely erase objects that are in the background.

iTunes: <http://dgit.in/1C8e3sn>

Google Play Store: <http://dgit.in/1C8dM8y>

Frontback: This app lets you take a picture with the front camera and another with the rear camera, and combine both into a single image. You can then share them directly on your social media networks.

iTunes: <http://dgit.in/1BsgsuR>

Google Play Store: <http://dgit.in/1uTeMeU>



The Selfie-stick

No matter how stupid you may look holding it, but it definitely helps you getting cool looking selfies. The selfie-stick is quite an invention where you can just fit your camera/smartphone on one end and then click from the other end.

Specifications	Selfie Stick	Selfie Stick Premium
Fully extended length	114.5 cm	75.5 cm
Fully collapsed length	26cm	33 cm
Photo clicking device	Shutter Ball	Time Shutter
Weight	190g	170g
Material	Aluminum	Polycarbonate
Tripod included	Yes	No
Manufactured	China	Korea

The idea is to basically have a better composition and add a wider area into your picture or as if the picture was actually clicked by a third person.

Yes, there are brands for it. The 'Selfie-stick' from Merlin Digital comes in with a length of 114.4cm and is made with durable Aluminum casing. It also comes with a tripod and a shutter ball device to click pictures.

The Selfie stick premium on the other hand comes with ultra-lightweight polycarbonate body and weighs only 170g, making it easier to hold and carry. It also features a time shutter device for clicking pictures. The time shutter can connect up to 6 separate devices at one time. It can go up to 75.5 cms in length.

Puzzlecluster Concept

Puzzlephone - the modular phone and its processor unit can be used in a cluster to build a supercomputer. <http://dgit.in/SuperPuz>



Sword fight supercut

See this epic video montage showing a collection of the best sword fights in movie history ever: <http://dgit.in/SwordCut>

Selfie Camera Phones

TIPS ON TAKING BETTER SELFIES

Everyone wants to take good photos, and even more, want to look good in a photo. At times taking a selfie can be tricky as you need to hold the phone away from you and then snap the picture. You can improve on taking selfies by simply keeping the following few things in mind.

Use a good angle: You know how you look so use an angle that accentuates your good features. Try to avoid angles that make you look weird, you don't want to scare your friends when they randomly scroll through your gallery. If you are taking a selfie in a group, then move the camera up to accommodate everyone and try not to cut people in the photograph.

Lighting: Avoiding using the built-in flash, until and unless there is very little light. Use the natural light which won't make nasty overexposed areas in your photos. Use a well lit room or best would be to shoot under the daylight.

Filters: You can always enhance your photos by using various filters. There are a number of apps available that can really add a punch to your photos and make them look impressive. You can also enhance your skin in case those nasty zits are spoiling your face. Body language: Have a nice expression and try to shoot more than just your face with a natural pose. You can also use the environment, or just show off something new, like the latest title you got for your Xbox.

In the end, it is your picture. You can shoot yourself however and whenever you want, but having a memorable moment in the end, is what counts.

Eye is the undisputed champion in this comparison, whichever way you look at it. As a selfie performer, there is no phone in the market that can perform better than the Desire Eye.


In addition, in typical HTC manner, the phone is also a looker and a powerhour, which makes it the perfect choice if you have a budget and want an out and out performer. You will get the best selfies out of it, with app launches and low capture times, while your other smartphone functions will also be amply taken care of.

Best Buy: Nokia Lumia 730

Microsoft wasn't wrong in boasting about the selfie functionalities of the Lumia 730. In addition, its low price tag makes it an affordable smartphone for selfie lovers. The Desire Eye comes with a near flagship level price tag, which means if you don't need such a high end device, but selfies are a must for you, then the Lumia 730 is the way to go for you.

It is also aided by the very good build quality that has always been a hallmark of Nokia phones and one of the brightest displays that you can find in a smartphone today.

Editor's Pick: Moto X (2nd Gen)

Motorola showed a lot of confidence in its device by sending it for his comparison and we now know why. With the 32GB variant now available in India, the second generation Moto X was already the best smartphone in the market in our book. It offers performance better than most other devices and comes at an affordable price tag for flagships. The added pro of above average selfies makes it all the more attractive. 

MICROSOFT LUMIA 730 VS SAMSUNG GALAXY NOTE 4

Microsoft Lumia 730

As mentioned above, the image quality on the Lumia 730 is much better, which compensates for the comparatively less area that the camera covers. The Lumia 730 provides much more vivid pictures, with better colour reproduction. In addition, Microsoft has added the Lumia Selfie mode, which provides some additional features as well. The Lumia Selfie camera also allows you to use the 6.7 MP rear camera to take selfies. In this, you point the rear camera towards yourself and your phone beeps to let you know when the positioning is correct. You can then simply tap the screen to take the picture. Of course, this isn't always correct, but in our testing, we got more than enough satisfactory selfies out of the rear camera. This feature though is a little problematic in low light conditions, as the camera would often not beep because it can't find the right position.

Another issue with the 730's front camera is that it takes some time to process images. The front camera is slow in processing the image, especially when using the Lumia Selfie app.



Samsung Galaxy Note 4

The Galaxy Note 4 on the other hand is very fast in processing images, but its image quality is not as good as the Lumia 730. In place of Microsoft's rear camera selfie option, the Galaxy Note 4 allows you to take what Samsung calls the Wide Selfie. This is like a panoramic selfie, which lets you cover more area. That doesn't make up for the fact that the Galaxy Note 4 routinely blows out pictures and doesn't have very good exposure control.

Overall, it seems that the Lumia 730 is the best selfie phone that we've tested so far. The pictures taken through the front camera are really good compared to its competitors and we don't see any other

phone in its range that can come close to it. Well, at least till HTC decides to start selling the Desire EYE with its 13 MP front camera in India. If you're a selfie lover, then this is a very good option at a comparatively lower price.



Bazaar

THE LATEST PRODUCTS REVIEWED FOR YOU

The Digit Test Centre receives hundreds of products every month. Each of these products is put through a series of tests and is finally given a score. The final score is arrived at after considering a number of factors and evaluating them in terms of features, performance, value for money, build quality, and, in the case of software, even ease of use.

For better understanding of our ratings, here's a quick guide to our overall score

-  **Extremely poor product.**
Keep away!
-  **Strictly OK.**
Not recommended
-  **Decent product.**
Go for it, but there may be better products out there.
-  **Very good product.**
Highly recommended.
-  **Ground-breaking product.**
We've never seen anything like it before.
A definite must buy!

Page 58 ▶
ASUS GTX 980
Matrix Platinum



◀ Page 59
Cowon EH2



Page 61 ▶
Audio-Technica
ATH-MSR7



▲ Page 62
HTC Desire Eye



▲ Page 63
Merlin ScreenCast
Streamer



▲ Page 64
SIGMA DP2
Quattro

& M O R E . . .

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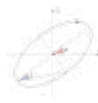
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INTO LIFE!



Going mechanical?

Thinking of buying a mechanical keyboard? Here's a great article for those who want to hop on board the bandwagon and know nothing about them <http://digit.in/mechkeyb>



Bitcoin Polarization

Ever wondered how virtual bitcoins can be polarized? Be sure to read this one 'til the end <http://digit.in/polbitc>

Bazaar

Yu Yureka

Yu got it right

So the first Yu Yureka sale is over and Micromax has everything, the controversy, the split second flash sale, but most importantly, a smartphone that is actually very good. It's not often that you would have heard this, but the Yu Yureka is nothing like what Micromax has ever made, which is perhaps why Micromax went for the product differentiation and created a whole new brand for this device.

The Yu Yureka runs on the Snapdragon 615 chipset, which gives it ample power along with 4G support. In addition, CyanogenMod 11 adds a number of features, which you would otherwise not have on your Android smartphone. It gives an impressive AnTuTu score of nearly 32,000, while the graphics performance of just over 9,000 on 3D Mark Unlimited is also more than satisfactory for phone in this price range.

None of that really sets the Yureka apart though, because we've seen it with recent Xiaomi devices. The phone has a good 13MP camera as well, which you may even say is better than the Redmi Note 4G (its only competitor right now), but it's only slightly better in the low light department. What sets the Yureka aside and above the Redmi Note 4G is its looks. While this is in no way the best looking smartphone in the market today, for a sub-₹10k phablet, the Moonstone finish on the back does just fine.

In our tests, there was really very little separating the Yu Yureka from the Xiaomi Redmi Note 4G. Both the devices were satisfactory for the price range, but we still tilt towards the Yureka, not only because of the slightly superior performance, but because of the newer hardware. The Redmi Note is essentially an outdated device when compared to the Yureka, which stands to gain from future OS updates because of its newer hardware.

The new Qualcomm chipset and their 64-bit architecture are built essentially for Lollipop, which means the new version of Google's software



Price
₹8,999



should help the device. In addition, the Yureka also costs ₹1,000 less than the Redmi Note 4G, while still offering 4G connectivity, making it the better choice.

The Yureka's weakness is threefold. First, the 720p resolution doesn't quite suit the 5.5-inch display, making it not sharp enough for us to really like it. While we do understand that the price range justifies this, we still can't call this display good. Secondly, CyanogenMod, like it was on the OnePlus One, isn't the stablest OS you can find for a phone.

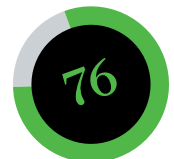
If you know about CM, you would know this yourself and the instability won't be a problem for you if you like tinkering with your phone's software. That said, for a regular user, sudden

app crashes may be an issue, even if they're not very many. CyanogenMod on the Yureka is like a double edged sword, while it does add a ton of new features and offer more control over your phone, it also adds this drawback to it.

Lastly, the 2500 mAh battery on the Yureka is not enough for a phablet. Micromax insisted the Cyanogen's OS optimisation would allow for capacity upto 3200 mAh and while that is true, a one day battery life is not what you would want out of a phablet. We had to work a little hard to get this smartphone to last us the whole day. The battery life is almost similar to the Redmi Note on regular usage, but like we had said in that review, even that wasn't enough.

Overall, we were quite satisfied with the Yu Yureka smartphone. It takes the cake over its competitors and is unlike any smartphone that Micromax has had to offer till date. In fact, it's unlike any other smartphone in the budget segment altogether. The Yureka was a thoroughly satisfying device and would make for a good buy, as long as Micromax can keep up good after sales service.

Prasid Banerjee



Features.....	86
Design.....	70
Performance.....	68
Value.....	89

Specifications

Display: 5.5-inch 720p IPS display; **Processor:** 1.5 GHz Qualcomm Snapdragon 615 64-bit octa-core SoC; **Battery:** 2500 mAh; **Operating System:** CyanogenMod 11, Android 4.4.4; **RAM:** 2GB; **Storage:** 16GB, expandable up to 32GB; **Camera:** 13MP rear, 5MP front.

Contact

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Email: info@micromaxinfo.com
Website: www.micromaxinfo.com

LinkedIn's publishing tool...

...after reaching one million posts by its members, has started its international rollout, giving access to other English speaking countries, including India. <http://dgit.in/LinkdINPub>



Mexican drug drones?

A drone carrying crystal meth crash lands into the parking lot of a supermarket near the US-Mexico border <http://dgit.in/methdrone>

ASUS GTX 980 Matrix Platinum

Pushing the envelope a little further than before



Price
₹52,000

ASUS's ROG cards always give enthusiasts something to look forward to. These cards are made for those who're willing to push the limits and it's no surprise to see their cards occupying four places in the top ten ranking on 3DMark's Hall of Fame with the first place being retained as well.



Performance.....72
Value75
Build68

Specifications

Chipset: GM206; **Base clock:** 1241MHz; **Memory clock** - 1753MHz; **Stream processors:** 2048; **Texture Units:** 128; **ROPs** - 64; **Manufacturing process:** 28nm, PCIe 3.0, 4096 x 2160 digital resolution support, 4 GB Memory; **DirectX support:** 12; **OpenGL support:** 4.4; **Power Connectors:** 8Pin + 8Pin; **TDP:** >165W; **Warranty:** 3 years

Contact

ASUS Technology Pvt. Ltd.,
Phone: +18002090365
Email: reachus@asus.com
Website: www.asus.in

The 980 Matrix platinum has pretty good cooling with load temperatures never going above 53 degrees Celsius but those who do get this card are generally going to be pushing for the leader-boards with the help of LN2. And when it comes to the problems faced by extreme enthusiasts the card has a few well-thought out features like the LN2 defroster which is useful for preventing cold bugs. Also, if you screw up with the BIOS then there is a one button recovery system as well.

We started overclocking the card with the memory clock boosted to 1997.5MHz from 1753MHz and the boost clock was pushed to 1495MHz. The actual speed noted was 1455MHz and that pushed the Firestrike score from 11,861 to 13,277 which is an impressive 12 percent improvement.

If you're wondering why the performance score isn't the maximum for this card it's because we've added the GTX TITAN Z and the AMD R9 295X2 to our benchmarks. Otherwise, this is the best performing single-GPU graphics card that we've tested.

Mithun Mobandas

Lenovo W540

Most powerful business notebook we've tested

The ThinkPad W540 is no ordinary laptop. It's thick, bulky and not for the faint of heart. It's every inch a bore, if dazzlingly beautiful laptops is your thing. But ThinkPads were never built to win beauty contests. The W540 is built like a tank, with metal hinges that give it great rigidity. The workstation-class laptop packs in a fantastic keyboard which is an absolute joy to type on, with island-styled isolated keys. The accompanying track-point navigation is as addictive as ever, something that's guaranteed to make you



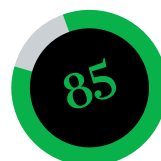
Price
₹1,29,500

forget the traditional touchpad slab found on almost all laptops. These two input options are one of the best we've experienced on a laptop, and the W540's dedicated numpad packs in great convenience for spreadsheet obsessed business executives.

The laptop's screen is matte, which is great for business usage, but it has mediocre viewing angles. Looking at the machine's hardware capability, its performance blows past all business laptops we've tested till December 2014. What's particularly surprising and noteworthy is the laptop's better-than-average loud and clear speakers for a pleasant audio experience. As a business laptop, the W540 comes with Intel vPro and other security features, not to mention proprietary software for easy maintenance of the laptop.

If you're CAD and 3D modelling, definitely consider this laptop. Also check out HP ZBook and Dell Precision M3800 which are pretty good as well.

Jayesh Shinde



Performance.....85
Features85
Build Quality90
Value80

Specifications

Screen: 15.6-inch, no touchscreen, Full HD res; **CPU:** Quad-core Intel Core i7-4800MQ 2.7GHz; **RAM:** 8GB DDR3; **HDD:** 1TB; **GPU:** NVIDIA Quadro K1100M with 2GB GDDR5; **IO Ports:** Thunderbolt, VGA, 4 x USB 3.0, SD Card slot, ExpressCard slot; **Wireless:** Wi-Fi 802.11ac & Bluetooth: 4.0; **Weight:** 2.7 kg

Contact

Lenovo India
Phone: 1-800-3000-9990
Website: www.lenovo.com/in



Manual thermal

Thermal camera with manual focus? See the next big thing in Seek Thermal's pocket. <http://dgit.in/skthrman>



Glowing forest

Ever wondered if it's possible to Avatar-ise a forest? Projection's your thing. Take a look: <http://dgit.in/avatarforest>

Bazaar

Cowon EH2

High fidelity, with a hefty price tag

The prospect of reviewing earphones from Cowon is always something to look forward to; not because Cowon is known for stellar quality or has had consistently brilliant releases – that's not the reason. The prospect is exciting because there's always the possibility of discovering gems like the EMI. The EMI as you probably know is a budget segment performer that's been our most recommended headphone for a long while now.

A look at the packaging and the headphones themselves quickly answered the "budget" part of my earlier query. No, these were certainly not going to be budget headphones. Thirty seconds into putting them on and I realised we're dealing with something way different here. The clarity and detail was such that it was time to upgrade the league a bit and bring out the slightly bigger guns for comparison. So out came the Aurvana 2 as well as our old favourite – the Martin Logan Micros 70.

I decided to hook up the FiiO E11K Kilimanjaro to a Nexus 5 for one round of test tracks followed by our old faithful Xonar Essence STX for the next round.

Features and build

The most interesting bundled accessory with the EH2 wasn't the carry sleeve or the 1/4-inch adapter, it was the assortment of tips. There were three sizes and two types. Apart from the regular ones you get tips that have a bit of foam lining behind the flange. This provides more resistance or push back against your ear canal, therefore a better seal and better isolation.

This being a hybrid headphone, it houses two drivers. One, a balanced armature design driver and the other a regular dynamic driver. The balanced armature driver tackles the highs while the dynamic driver produces the bass frequencies.

The headphone reminded us of the XBA 3 which had not just two but three discrete drivers. While having more drivers than just one full range driver does seem to be a feature that many in-ears seem to be sporting these days. We even have with us the UE 900 which has quad drivers – that's four drivers to each ear. Still whatever the number of drivers it's ultimately the performance that matters. So let's get down to the part that really matters.

Performance

Having tried different sources with the EH2, one thing is apparent right away – the detail is phenomenal. While the higher end of the spectrum is greatly enhanced somehow they still manage to sound sweet and not shrill – typical of the sound signature we've noticed on similarly tuned in-ears like the Klipsch Image S4i, for example. The performance and fidelity is truly superlative. Halfway through the test I began switching between the Bose QuietComfort 20i and the UE 900 for drawing comparisons. While the Bose QC 20 has that please-all sort of sound signature, I found that the EH2

had its mid range slightly less emphasised. The EH2 therefore is decidedly bright. The bass isn't punchy or hard hitting, but in no way can the headphone be described as bass shy. For flat response enthusiasts (who usually don't like too much boom in their audio) this headphone will be much loved.

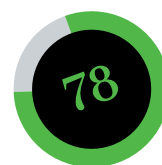
But of course it can't all be great. Having the mid ranges suppressed some of your tracks especially those driven by vocals won't sound that great. Take for example the velvety smooth baritone timbre of Chris Rea's voice. While listening to Chris Rea's Call On Me, the warm, full-bodied rasp of his vocals is lost. So yes, while the EH2 handles the instrument density of rock and metal numbers beautifully, with perfect separation and detail, I wouldn't recommend it for country or similar genres.

Verdict

Quite simply if you are even a little serious about quality and the kind of audio experience you subject your ears to, you have to get yourself the EH2. The price puts it squarely between the likes of the Aurvana 2, Micros 70, XBA 3 which cost around ₹8000 on one side and extreme high end ones like the UE900 and QC20i which cost upwards of ₹25,000. What's surprising and delightful is that the performance of the Cowon EH2 is closer to those 25k headphones than it is to the 8k band. Bottomline: if you can afford it go for it. It's an audiophile collectible.

Siddharth Parwatay

Price
₹14,500



Features.....	77
Performance.....	85
Build.....	77
Value.....	72

Specifications

Impedance: 32 ohm; **Rated power:** 3mW; **Max Power:** 100mW; **Sensitivity:** 105dB; **Frequency response:** 20Hz - 22,000Hz; **Cord:** 1.2m

Contact

Lipap Systems
Phone: 022-29271307
Email: iaudio@lipap.com
Website: www.cowonindia.in



Microsoft HoloLens

Microsoft unveils its AR interface - the Microsoft HoloLens. Here's a hands-on of the tech giant's new baby <http://dgit.in/msholo>



4Chan Moot?

Christopher Poole talks to Mashable about his time starting and running 4Chan. Moot Speaks! <http://dgit.in/4cm007>

YotaPhone

Twice the displays, half the phone

First thing you should know that the phone comes with two screens, one at the front and one at the back. It has a 4.3-inch 720p IPS panel upfront which is the primary screen, works well and reproduces good colours. And if you turn the phone around, there is a 360p e-ink display on the back.

This e-ink display is what makes this phone unique since Yota believes that the always on e-ink panel will help users be more productive without draining the battery. But the thing is the



Price
₹12,999

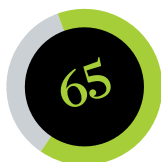


e-ink display is not backlit nor well implemented for that matter and does not support any touch gestures.

Now coming down to the regular stuff, since Yota is a Russian company, we expected it to have good build quality on the smartphone and, yes, the phone is built like a tank. YotaPhone lags behind the competition with the last gen Snapdragon 400 from Qualcomm. We noticed a certain ghosting effect throughout the whole interface which creeps in during video playback as well.

Moving on to the 13MP rear camera, it takes good pictures and the 1080p video recording is commendable as well. So the bottomline is, the dual-screen setup of the YotaPhone might catch on in times to come but since we believe that it has not been implemented as well as we hoped for, its better to skip this phone and hopefully the next generation might surprise us.

Hardik Singh



Feature	59
Performance.....	63
Value	77
Design	59

Specifications

Display 1: 4.3 inch IPS display with 1280x720 resolution (342ppi); **Display 2:** 4.3 inch e-ink 16-grayscale 640 x 360 resolution (170ppi); **Battery:** 1800mAh; **Storage:** 32GB; **Camera:** 13MP rear with LED flash, 1MP front; **SoC:** Qualcomm Snapdragon 400; **CPU:** 1.7GHz quad-core; **RAM:** 2GB; **Operating system:** Android 4.2.2

Contact

YotaPhone
Phone: 1800 208 9898
Website: <http://yotaphone.com/>

House of Marley Liberate XL headphones

Basstafarian

The Liberate XLs are good looking headphones that will definitely stand out with their classy design. With liberal use of metal and wood, the Liberate XLs are more stylish than the plastic headphones that populate the market. The Liberate XLs are also very well built and even though they are collapsible, the hinges are solid and there is no sign of wobbliness in the entire build. The Liberate XLs sport a 1.3 meter long fabric covered cable which are thankfully immune to getting tangled.

The big issue with the way these headphones have been designed is that they aren't meant for prolonged use. The cups sit very tightly on your ears and feel like they hamper



Price
₹9,990

blood circulation. Many of my colleagues here said that wearing the headphones for more than an hour gave them a headache. This is clearly a serious issue, unless you have a cartoonishly small head, in which case you should be okay.

It's a different story though when it comes to audio performance. If you exclusively listen to EDM or thumpy, club music, you'll find the Liberate XLs fantastic. If your music tastes include pop, rock or songs with prominent vocals, then you'll only feel disappointed that you splurged on these House of Marley headphones.



Performance.....	64
Features	88
Design & Build	80
Value for Money	50

Specifications

Frequency Response: 20 - 20,000 Hz; **Driver:** 50 mm moving coil with Neodymium magnet (x2); **Weight:** 635 grams; **Impedance:** 32 ohms; **Cable length:** 1.3 meters

Contact

House of Marley India
Phone: 022-42102401
Email: NA
Website: www.houseofmarley.in

Bottomline

By any standards, ₹9,990 is a large sum of money for any consumer headphones, so, I cannot wholeheartedly advise you to splurge on the Liberate XLs. Instead, bassheads can consider the Sony MDR-V6s or the AKG K240s as better alternatives that cost slightly less. If you're looking for more better all-round performance, then go for the Sennheiser HD 280 PROs.

Nikhil Pradhan



Say: What?

The WhatSim was announced, recently - a cell phone Sim card dedicated to Whatsapp users. find out more: <http://dgit.in/thewhatsim>



Synthesize your pocket

Carry a synthesizer around with you in your pocket. Simple, easy-to-carry and cheap, these gadgets are great for composers working within a budget <http://dgit.in/pocksynth>

Bazaar

Audio-Technica ATH-MSR7

Reference grade audio packaged in a consumer-friendly avatar

High Resolution" audio seems to be quite the buzzword these days with the launch of digital audio players like the Sony Walkman ZX2 and Neil Young's PonoPlayer recently. The Audio-Technica ATH-MSR7 too goes to great lengths to tell you that it's meant for high resolution audio. For those who aren't familiar with the term, high resolution audio isn't a specific standard as such, rather only a term used to describe audio encoded at sampling rates greater than 44.1 kHz and with bit-depth greater than 16 bits. The MSR7 box has the "Hi-Res Audio" logo slapped on but we're not quite sure how it applies to a headphone. Either ways it doesn't matter because the MSR7 is a really beautiful looking and pristine sounding headphone. What Audio-Technica has done is essentially bring the sonic fidelity and aural chops of a production monitoring workhorse like say the M50 and fit it into a curvy and convenient package - something that an average joe aspiring audiophile will be comfortable using. How exactly has Audio-Technica done this? For starters this is a low impedance and high sensitivity headphone so you don't really need to break out your Amp to drive them. The MSR7 is portable too (it folds flat) and comes with three cable - one of which has in-line smartphone controls and a microphone.

Design, build and features

The headphone housing is supposed to be made from a mixture of aluminum and magnesium, layered to provide a lightweight but rigid structure. The headphone is indeed light and gives the impression of being well built. The headband adjusters feel sturdy and so does the sliding mechanism. The headphones inspire a fair amount of confidence which is good since they're portable they need to be built well enough to take a fair amount of jostling. The pads are made of soft memory foam. These don't get uncomfortable for long listening sessions, but being closed backed they do then to get warm.



Price
₹16,299

Now let's get down to business. What's the performance like?

Performance

The circumaural closed-back design, coupled with just the right amount of headband clamping pressure and memory foam pads make for very good isolation. The headphones are able to cut out ambient noise to quite an extent - a little more than say the HD280 pros or M50s if you're familiar with those. But the comfort is much more.

The sound signature is fairly neutral, at least more neutral than most headphones we've had. Although not in the same range, for the sake of reference we switched between the MSR7 and the Aurvana Live!2. While the Aurvana had it's bass accentuated, the MSR7 was accurate (true-to-source) and quite enjoyable. One of our test tracks, While My Guitar Gently Weeps (originally by The Beatles) feat. India.Arie & Yo-Yo Ma sounded especially nice. The Cello sounded beautiful and we ended up noticing nuances which we last remember hearing on the K240 MKII. Overall, they're precise, the bass is hard hitting, accurate and all frequency ranges are well represented.

Verdict

Though it is expensive, for the price, you'd be hard pressed to find headphones so accurate. Sure you could go for proper studio monitoring gear such as the Audio-Technica's own M50 or AKG's K612 PRO but you'd have to deal with all the seriousness those headphones come with. The MSR7 on the other hand is a mix of both worlds. You get great audio as well as the flexibility and design swag of a consumer focussed audio piece. If you want to take a definitive crack at what some would call "listening to audio the right way", the MSR7 is the perfect step in the right direction. Of course the sky's the limit from here on. But for starters you can't go wrong. The comfort, hardy build, portability, bundled cables all make it a worthwhile purchase.

Siddharth Parwatay



Performance.....	78
Features	75
Build	72
Value	72

Specifications

Driver: 45 mm; **Frequency Response:** 5 - 40,000 Hz; **Maximum Input Power:** 2,000 mW; **Sensitivity:** 100 dB/mW; **Impedance:** 35 ohms; **Weight:** 290 g; **Cable:** Detachable 1.2 m, 3.0 m, 1.2 m with mic

Contact

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Mega chat

Mega decides to launch an end-to-end encrypted audio and video chat. Available for free trial to anyone with a mega.nz account <http://dgit.in/megachatnz>



Fixing the Master Chief

Microsoft's still in the process of patching the heavily busted Halo Master Chief Collection. Progress is slow <http://dgit.in/mshalomcc>

HTC Desire Eye

More than what meets the eye



HTC continues to bring in some great looking smart-phones, but again is not making progress in terms of sales. The flagship One (M8) and other devices like the One (E8) and its range of Desire hand-sets haven't made a huge impact despite having some of the best designed smart-phones. The most recent of the lot is the selfie centric smartphone called the Desire Eye, which comes with front and rear 13MP cameras aided with dual-tone LED flashes. The performance of the smartphone is quite similar to the One (M8) and the One (E8) with only a larger 5.2-inch display and of course the front 13MP camera.

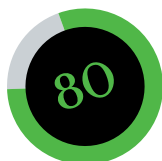
Price
₹32,990



It has a soft matte plastic back and a distinguished coloured accent all around the edges. The front houses the 5.2-inch display, which is quite good, offering a smooth and flawless experience like the HTC One (M8) and the One (E8). It also offers a good amount of brightness and contrast and the colours feel quite accurate. Both the cameras are well done, especially if you like taking selfies. The dual-tone flash is also useful as it fires the correct tone (cool or warm) as per the conditions.

The only problem is the price. At ₹32,990 it falls in the same price bracket as HTC's premium flagship smart-phones. It seems that HTC's strategy is to provide different smartphones in the high-end flagship section, leaving the consumers to make the choice based on which feature appeals to them the most.

Kunal Khullar



Features	79
Performance.....	82
Value	77
Design	83

Specifications

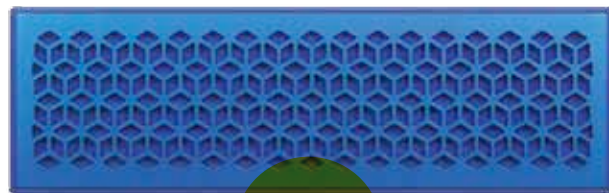
Display: 5.2 inches, 1920x1080 resolution with Gorilla Glass 3 (424 ppi); **Battery:** 2400mAh; **Storage:** 16GB; **Camera:** 13MP rear and front with dual-tone flash; **SoC:** Qualcomm Snapdragon 801; **CPU:** Quad-core 2.5 GHz; **GPU:** Adreno 330; **RAM:** 2GB; **Operating system:** Android 4.4.4 with Sense 6; **Connectivity:** 3G, Wi-Fi, Bluetooth, NFC

Contact

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Creative MUVO mini

So feature rich, you can't go wrong



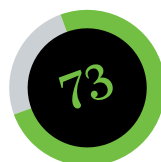
Price
₹5,999

The ₹5-to-8k range has been the sweet spot for portable speakers lately and we've been seeing a lot of action in this space especially in the form of small form factor speakers. For example, unlike the MUVO 10 and 20, which as just big bluetooth speakers, the MUVO mini is a more interesting product. The small footprint and the inclusion of NFC is what makes this speaker more interesting.

The speaker looks a lot like the Edifier Extreme Connect

speaker but the design sensibilities very much follow the geometric pattern style we saw on Creative's own Airwave HD, especially with the front grille. The back has the aux in and micro usb ports that are covered by a rubberised flap. Speaking of which, the MUVO mini comes with an IP66 Ingress protection rating which means it's water and dust resistant – a feature that very few of its competitors are throwing in at the moment.

The performance of the MUVO mini is at par with the likes of Logitech's UE Mobile Boombox and the SimpleAudio Go that we tested last month. Running our full gamut of test tracks we quickly realised that the speakers are tuned for good highs. The dual 1.3-inch full range drivers do their job and the front firing passive radiator manages to amplify the bass. The bass performance or the overall audio quality is a shade lower than the SimpleAudio Go. Then again that's a more expensive speaker and doesn't even have NFC or the MUVO mini's all-weather chops. Overall, the performance level, volume output (quite loud), and the host of features make it a worthy purchase.



Features	75
Performance.....	73
Build	75
Value	70

Specifications

Dimensions (H x W x D): 190 x 37 x 59 mm; **Weight:** 288g; **Bluetooth Version:** Bluetooth 4.0; **Bluetooth profiles:** A2DP, AVRCP, HFP (Handsfree Profile); **Rated battery life:** 10 hrs; **Battery type:** 3.6V, 2200mAh lithium-ion battery

Contact

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Siddharth Parwatay



Move the hand

The hands of the doomsday clock are scheduled to move any moment, now. Fact or fiction? <http://dgit.in/doomsdclk>



iRig

The iRig puts the power of a recording studio in a sleek array of portable devices that hook up to your smartphone <http://dgit.in/irigport>

Bazaar

Xiaomi Redmi Note 4G

Solid but not noteworthy



Features	78
Display	71
Performance.....	62
Value	80

Specifications

Display: 5.5 inch 720p IPS display; **Processor:** 1.6 Ghz Qualcomm Snapdragon 400 quad-core SoC; **RAM:** 2GB; **Storage:** 8GB, expandable to 32GB; **Battery:** 3,100 mAh; **Operating System:** Android 4.4 KitKat with MiUI 5

Contact

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Following the Ericsson case, Xiaomi has only one version of the Redmi Note to sell in the Indian market. That makes the Redmi Note 4G all the more important for the company. In addition, with the arrival of the Yu Yureka, it is no longer void of competition. The MediaTek SoC in the 3G version of the Note is replaced in this one by the Snapdragon 400 SoC and the 4G version also runs on KitKat instead of Jelly Bean, even though MiUI 5 remains as before.

If you read our review of the Redmi Note 3G last month, you would know we weren't impressed with the battery draining MediaTek SoC. That is one area that the Snapdragon 400 excels at. In fact, the Redmi Note's battery capacity is better than the Yu



Price
₹9,999



Yureka as well, if only slightly.

On the other hand, the performance of the device is lower than the 3G counterpart and Yureka. That and the fact that the Snapdragon 400, as good as it is, is still an outdated SoC, is what makes the Redmi Note 4G the inferior device when compared to the Yu Yureka smartphone.

Like its predecessor, the Redmi Note 4G remains a satisfactory smartphone in the budget segment, but it's no longer the best in its class. The Yu Yureka is a more powerful and also happens to be priced ₹1,000 lesser than the Note. So, if it's 4G that you want, then the Redmi Note, while satisfactory, isn't

the best buy anymore.

Prasid Banerjee

Merlin ScreenCast Streamer

Sleek and well built

EZCast based HDMI streamers are always easier to work with. Though the firmware is far from being polished, it seems to be the one actively working towards improving the user experience. The hardware is pretty much the same for all EZCast streamers unless you wish to buy the EZCast Pro which has slightly better hardware. We'd tested another such streamer about a year back and it was nice to see a good deal of improvement since then. The hardware is the same but the cost is slightly higher than what we'd looked at earlier. Even when connected to the streamer directly and not through a router we did experience a fair amount of stuttering in heavy applications so you'll need a mobile device with decent specifications to eliminate any bottlenecks at your end.

So it comes down to how well the firmware has been implemented.

Despite the slew of improvements made to the software there are still some glaring bugs which can make the experience a bit cumbersome. The game scanning feature is ridiculously slow and there is no option to rotate the screen. When accessing PDFs, the screen goes black completely if the mobile device is rotated to change to landscape mode. Lastly, advanced Wi-Fi settings aren't available so if you

wished to perform a few QoS modifications then you need to do the same at the router level.

What we liked about the product is that it comes with an HDMI extension cable and a HDMI female-female receptacle. Since this is a niche category product it is essential that the product come with all accessories that may be needed to get it to work and Merlin seems to have hit the mark on that regards which makes the slight price increment justified.

Mithun Mohandas



Price
₹3,800



Features	80
Performance.....	70
Build	75

Specifications

CPU: AM8251; **RAM:** DDR3 128MB; **Memory:** 128MB; **Supported protocols:** DLNA, Airplay, EZcast, Miracast; **Wi-Fi:** 802.11n; **Dimensions:** 33 x 87 x 7mm; **Supported OS:** Android 4+, iOS6+, Mac 10.7, Win XP/7/8; **Warranty:** 1 Year

Contact

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Say hi to the HIRIS

A wearable computer that lets you carry around a way to control your home automation on the fly. The next generation of Clappers <http://dgit.in/theiris>



Cheaper international calls

Ringo is an app for Android, iOS and Windows Phone, that lets you make international calls without the internet, cheaper than Skype or Viber. <http://dgit.in/RingoCall>

SIGMA DP2 Quattro

Too niche for comfort



Photography used to be an art form that required a great deal of patience and care, as opposed to the currently popular click-and-hope-for-the-best philosophy. During the days of film, the kind of photos you could take depended on the type of film that you used. Digital cameras changed all that by offering a degree of flexibility that was unmatched, but that flexibility was limited to more expensive cameras. Nowadays however, with DSLR prices falling to the sub-₹20,000 mark and the marked improvement in smartphone cameras, we're no longer even restricted by price.

The SIGMA DP2 Quattro seems to be taking the diametrically opposite path to what was expected. The images from the DP2 are simply stunning in good light. There's a level of detail that we're hard pressed to find in even the most expensive of DSLRs and the dynamic range that's captured is only rivalled by film and good HDR photography, especially in direct sunlight.

That said, in anything other than ideal light and low-ISO (low being ISO 100), the images are so noisy as to be unusable. Even at ISO 250, noise is very apparent and it only gets worse from that point on. High-ISO images are so noisy that many-a-time it's hard to differentiate between a fuzzy webcam and the DP2 Quattro.

The sensor is actually a 29MP sensor, but the DP2 can interpolate that to give you 39MP and given how sharp the lens is, not a pixel is wasted. The lens itself is a little slow for a fixed lens, at f/2.8, and is absolutely tiny, despite the size of the outer casing. But the size belies its potential. Once you focus, which is definitely slower than we

were expecting but on par with a regular compact camera, the images are very sharp and detailed and detail on objects even a 100 feet away is readily apparent. You also get to switch between a multitude of focus points at the flick of a switch, which is nice.

One odd thing about the images is that while the captured dynamic range is good, there's no room for error in the sense that you can't recover detail from overblown or dark areas the way you can with a DSLR or, for that matter, many other decent film cameras. We suspect that this is an artefact of the sensor design, which overlays lighting information on the colour information to provide a complete image rather than having each pixel gather that data individually. Either way, your images have to be perfect, there's little scope for editing later on. Obviously, this camera can only perform well in the hands of an experienced or extremely conscientious photographer who knows exactly what he's doing.

Image quality aside, the ergonomics are suspect and the speed, terrible. The camera seems to be designed with the intention of looking different, rather than for serving a functional purpose. While the button placement is good, the grip is awkward and the camera is uncomfortable whether it's used with one hand or two. It's also larger than a compact camera and smaller than a DSLR, but neither more comfortable than the former nor easier to pack than the latter. Even worse is the fact that the camera takes up to 4 seconds to record an image to the SD card, and we're only talking about a 12MB JPEG here.

The build quality is quite good, you feel like you're holding an expensive camera, but even disregarding ergonomics, there are other design decisions that seem awkward, such as the battery cover that doesn't automatically lock or the stiff rubber on the SD card slot.

The Foveon sensor is as temperamental as ISO 100 film, but the output is almost as good. This camera is, in our opinion, only a showcase for the potential of the sensor. It's not something we'd be able to recommend, especially not at this price. Slap this sensor onto an SLR or good mirrorless body and work on the high noise levels and SIGMA just might have a winner on their hands. But not yet. The camera can be rewarding, but it's too expensive and too limiting to be worth the effort.

Anirudh Regidi

66

Performance.....	65
Features	85
Build	85
Value	30

Specifications

Lens: 30mm f/2.8 fixed lens; **Sensor:** 29MP Foveon; **Shooting Range:** 28cm; **Weight:** 395g; **ISO Sensitivity:** 200-6400; **Shutter Speed:** 1/2000-30 sec; **Flash:** in-built hot-shoe, no in-built flash

Contact

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Headphone Zone

It is a portal dedicated to headphones and earphones, featuring buying guides, that helps you in picking the best product <http://dgit.in/HeadPhneIn>



Jetsons movie

Jetsons - the classic cartoon series by Hannah-Barbera is being made into a movie http://dgit.in/Jetsons_Mov

Bazaar

Gigabyte GeForce GTX 960 G1 Gaming

Has the latest from NVIDIA hit the sweet spot?

Gigabyte's GeForce GTX 960 G1 Gaming graphics card heralds the arrival of the much awaited 60-class graphics card. The 60-class graphics cards offer the highest price to performance ratio while maintaining playable frame rates. Moreover, in India they've been priced around the ₹15,000 - ₹20,000 range so these cards sell good but not at launch. Gamers would rather wait for roughly a year or so before getting these cards and by then the price comes down to the more affordable ₹13,000 - ₹15,000 range. So that makes the 60-class cards the go-to card for every budget gaming PC build.

So when you take a look at the GM206 you see that it has exactly half the amount of CUDA cores, TMUs and ROPs than the GM204. Something that's gotten a little controversial since the 960's specifications leaked out on the Internet is that of the bus-width for the memory. The Maxwell architecture is one that scales really well and NVIDIA has opted for using compression algorithms to squeeze more data through the data-bus rather than increasing the bus-width. What adds fuel to the fire is that the competition sports a 256-bit bus width on R9 285 and even the GTX 760 has a 256-bit bus width. The question that needs to be answered is if the compression is so good that a 50% reduction in bandwidth is justified? Well we need to look at what we're getting and how much we're paying for it. In the case of the 760, it used the same chip as that of the 770 so the bus-width was unlikely to be that different from the 770. In the case of the 960, it isn't based on the same GM204 chip which the 970 is based on so it has been redesigned for the 960 to not only provide a comparable framerate but also by doing so at a much lower price point.

The TDP of the GM206 chip is 120W which is obviously not going to scale linearly but with such a low TDP we've seen silent cooling slowly become mainstream. Gigabyte's GTX 960 G1 Gaming card has ramped up the base clock from 1127MHz to 1241MHz and the boost clock has been increased from 1178MHz to 1304MHz. This massive overclock, which has been made thanks to Maxwell, requires a lot more power and for this, Gigabyte changed the reference design's 120W TDP through a three-phase VRM to a 150W six-phase VRM. A change that not only allow more headroom for



Price
₹19,900

overclocking but is also cooler since the power draw will be distributed across six-phases instead of three.

The G1 Gaming SKU has a pretty high factory overclock and for that they've come up with a good cooling solution. The front chassis or fan shroud is made out of aluminium and they've made use of four heat pipes that run across the entire expanse of the card's front. These heat pipes sit directly on top of the GPU and even the VRM has a block of aluminium to cool it down. On the rear, we have a back-plate which is also made of aluminium that spans across the entire PCB. For the G1 Gaming card the Ultra Durable technology translates to having two ounces of copper in their PCB along with high quality solid state capacitors and metal chokes.

Performance wise the GTX 960 has followed in the footsteps of the GTX 980. It is a much efficient card when it comes to power consumption and also stays cooler but it barely outperforms a factory overclocked GTX 760. However, we've already discussed how the 960 is a redesign that is suited for the mid-range segment and has launched at a much lower price point so expecting the linear performance scale akin to what was achieved from the 760 (in comparison to the 770) is unfair. So if you're still running a rig with a Fermi or Kepler 1st generation card then the GTX 960 is a worthwhile upgrade. The Gigabyte GeForce GTX 960 G1 Gaming card has a considerable improvement over the reference design and the factory overclock makes it worth the investment. We even managed to push the card a little further by overclocking it by an additional 90MHz and they claim that the card can go all the way up to 1379MHz. We'd say that buying two of these and rigging them together in SLI is a much better proposition than getting a single GTX 980.

Mithun Mobandas



Performance..... 47
Value 85
Build 69

Specifications

Chipset: GM206; **Base clock:** 1241MHz; **Memory clock:** 1753MHz; **Stream processors:** 1024; **Texture Units:** 64; **ROPs:** 32; **Manufacturing process:** 28nm, PCIe 3.0, 4096 x 2160 digital resolution support, 2 GB Memory; **DirectX support:** 12; **OpenGL support:** 4.4; **Power Connectors:** 6Pin + 6Pin; **TDP:** 150W

Contact

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INNOVATING THE NEXT GENERATION OF GAMES AND DEVICES WITH INTEL®

Intel® has been regularly releasing a wide array of tools, SDK's and APIs to promote software development and to foster a healthy community around its platform. Today, the Intel® developer products division has a wide array of software that cater to each and every step of software development across a wide variety of platforms, be it mobile or desktop. Not just this, Intel is also striving to foster innovation towards newer technologies like Virtual Reality, Gesture recognition, 3D printing etc. Not just this, one of the major highlights and focus for this year has been The Internet of Things. It becomes all the more important as more and more of our electronic devices become smarter, interconnected and much more powerful.

In the past many of the tools have been covered at length and here we will attempt to provide you with a high level overview of the entire suite of available software and how you can use them as part of your development pipeline. All of these offerings coupled with Intel's hardware devices like the RealSense™ camera or the upcoming compute stick provide you with an ecosystem and community of developers focused on making our lives much easier, connected and more fun.

GAME DEVELOPMENT INTEL REALSENSE SDK

Developing next generation graphics, developing newer ways of interacting with electronic devices and virtual reality have been one of the most important aspects of game development of late. We are increasingly seeing more and more devices in the domain of hand and finger tracking, virtual reality, gesture recognition etc. In order to bring these features to a wider audience, Intel has been working on the RealSense SDK, previously known as the perceptual computing SDK.

The Intel® RealSense™ SDK is a software development kit available for systems based

INTEL® HAS BEEN COMING UP WITH NEW WAYS OF PROMOTING INNOVATION AT EVERY LEVEL ON ALL OF ITS HARDWARE AND SOFTWARE PLATFORMS. BE IT GAME DEVELOPMENT OR THE INTERNET OF THINGS, IT HAS ALWAYS BEEN AT THE FOREFRONT OF NEWER TECHNOLOGIES AND PROVIDED A RICH COMMUNITY FOR PEOPLE WORKING ON ITS PLATFORM.

on Intel Core processors 4th Generation and future onwards. It will be available for download starting Q3 in 2014 this year, but developers can now sign up on the Intel website to be notified when it will be available for download. It allows easier access for all the features supported by the RealSense technology. With the help of this software stack, developers can now deploy next generation applications with natural interfaces and at the same time bring out the best of Collaborative features in way which was never possible before. Some of the key technology areas in which this works include speech recognition, virtual reality, gesture recognition, facial analysis, hand and finger tracking, 3D scanning and printing etc.

Intel has a slew of hardware available to enable the above mentioned features for the RealSense SDK, some of these include: -

- 1) Intel® RealSense™ 3D Camera (Front F200 for Windows* Devices)
- 2) Intel® RealSense™ 3D Camera (Rear R200 for Windows and Android Devices) – Coming Soon
- 3) Intel® RealSense™ Snapshot (For Android Devices) – Coming Soon

More info about each of these is available on Intel's website at <https://software.intel.com/en-us/realsense/devkit>.

INTEL INTEGRATED NATIVE DEVELOPER EXPERIENCE

Intel® INDE is a complete set of tools and libraries to build, analyze, and debug, allowing fast time to market and deliver great experiences. Intel® INDE allows you to quickly develop apps that run on ARM*-based Android devices and on Intel® Architecture-based Android and Windows devices allow the exposing of unique Intel hardware capabilities that will delight your customers.

INDE gives you the freedom to integrate tools into your preferred IDE, on your preferred host OS. Intel® INDE supports Microsoft Visual Studio, Eclipse and Android Studio on Windows host systems, and Eclipse and Android Studio on OS X host systems, giving you the ability to create Android and Windows apps in the environment you're used to. What's more, you can choose to use Intel® INDE's command line option if you want to experience the benefit of Intel® INDE without the commitment of an IDE.

BUILD

Media RAW Accelerator for Windows*: Build applications to process RAW photos and 4K RAW video. Plus, achieve real-time performance

Tools	Starter Edition	Professional Edition	Ultimate Edition
Quick Setup: IDE Integration into Visual Studio*, Android Studio* and Eclipse*	✓	✓	✓
Cross-OS and Cross-Architecture Targeting	✓	✓	✓
Increase Productivity	✓	✓	✓
Use Platform Capabilities for Differentiated Apps	✓	✓	✓
Optimize Graphics with Complete Debugging and Analysis Support		✓	✓
Maximize Productivity and Performance with Intel C++ Compilers and Optimized Libraries			✓

A comparison of features for each edition of INDE.

utilizing the GPU-accelerated RAW image processing capabilities of Intel technology.

Media for Mobile: Bring professional-quality video & audio to your mobile apps using extensions enabling camera & screen capture, video editing, video streaming and audio fingerprinting. Media for Mobile supports Android, Windows-RT* and iOS*.

Audio for Windows*: Build in the ability for your end users to stream screen captures and recordings from their Windows device. Deliver quality sound with audio encode and decode for AAC, MPEG-1 and MPEG-2 through a dedicated library for audio codec processing. This feature plugs into the Media SDK for Windows*.

Media SDK for Windows: Deliver hardware-accelerated video editing and processing, media conversion, streaming and playback, and video conferencing.

Intel® Threading Building Blocks: get the most out of multi-threaded and multi-core platforms with this crossOS C++ template library for task parallelism.

Intel® Integrated Performance Primitives: A consistent set of cross-OS APIs to optimize compute-intensives tasks regardless of the target operating system or IA platform. Developers are freed from having to develop separate code paths to address different processor optimizations since Intel IPP handles that automatically.

OpenCL™ Code Builder: Maximize the power of the platform by optimizing tasks with the compute engines. Tap into an easy-to-use development environment to build, debug, and optimize OpenCL™ Applications on Window and Android, accelerated with Intel® Graphics processors.

Intel® C++ Compilers for Android and Windows: Experience great performance for compute-intensive applications. Both compilers are compatible with the GNU C++ Compiler for fast and easy multi-architecture support. Use the Android* compiler with NDK tools, including

Eclipse, and the Windows* compiler with Visual Studio, so you can stay productive using tools you already know.

Context SDK: bring advanced sensor capabilities to mobile thru APIs, algorithms and state machines. Use Intel's next-generation integrated sensor hub (ISH) for Android with all your data aggregated to a Mashery managed cloud service.

ANALYZE AND DEBUG

Intel® Hardware Accelerated Execution Manager (Intel® HAXM): A hardware-assisted virtualization engine that uses Intel® Virtualization Technology to speed up Android app emulation.

Graphics Frame Analyzer: Deep dive into frame capture performance analysis and experimentation for your OpenGL-ES and DirectX 3D workloads. This feature was previously available through the Intel® Graphics Performance Analyzers (Intel® GPA).

Graphics Frame Debugger: Debug and experiment with static frame captures from your OpenGL-ES 3D workloads, explore frame construction, assets, state and more.

System Analyzer: Graph platform, CPU, and GPU metrics and experiment with a variety of graphics overrides for your OpenGL & DirectX 3D workloads in real time.

Platform Analyzer: Analyze trace captures from your OpenGL-ES & DirectX 3D workloads including CPU and GPU queued tasks, durations, and more.

Debugger Extension for VS-Android: Native debugging for Visual Studio lets you perform interactive debug on real target devices or simulators, including single-step execution, call stack view, and more, so you can deliver flawless native apps for Android and Windows.

PROJECT ANARCHY: A GAME ENGINE BY HAVOK

Project Anarchy is a collection of game development tools that allows all kinds of developers to target and publish games on Android,

iOS and Tizen platforms and the best part is that it is available for free, although you are definitely expected to agree to some of their conditions in return. It has been developed by Havok, the leading organization in game development, that is popular for its physics engine which has been used by some of the leading game titles in the industry, and Project Anarchy brings in all this expertise to you for free! Now, with Intel as its parent company, you can be assured that its future is in good hands. Although, you can certainly expect a little bit of promotional activity to promote gaming on the x86 platform as well.

However, one question that many seasoned game developers are often found to be asking is that what is the catch behind giving away all this? Well, the only thing that Havok asks you in return is that you agree to its following three conditions: -

You are encouraged to be a part of the community and help make the product better by participating on its website which has all sorts of opportunities to interact with other developers in the form of forums, QnA etc.

Havok requires you to agree to some sort of co-marketing that it might want to do when your game is published. Specifically, this means that you are required to have a Project Anarchy splash screen before your game is launched and the possibility for Havok to do some kind of promotion activity when your game is launched.

If the game is being published on an official app store like Google Play and the platform supports an x86 compatible version of the game, then you are also required to build and publish the x86 binary for the same.

The above three minor conditions are the only applicable for the free license applicable when you are releasing games on the mobile platform. This standard license bundles along with it all the products like Havok Vision, Physics, AI and the



Find all the links mentioned in this article using the QR Code.
Shortlink for the bundle:
<http://dgit.in/IntAdFeb15>

Animation Studio. In case you want to customize and tweak the engine according to your needs, then headers for all products and source code for the integrations of Physics, AI, Animation in Havok Vision is also available. This license comes with community support and allows you to publish to all the official app stores of the three supported mobile platforms. It also includes a development only license for targeting your games to Windows PC's. However, if you want to ship games on Windows, you can purchase the PC exporter license which comes at the cost of \$499 per person in your development team. The PC exporter is expected to be available starting Q1 in 2014 and it brings you the full feature set for targeting your games on Windows, along with community support similar to the free license. Additionally, a full engine license is also available for incorporated companies which are specifically trying to target more platforms like consoles and comes with official support directly from Havok along with more advanced features like full source code and advanced rendering. The pricing for this license seems to be flexible and can be negotiated directly with the Havok Sales team.

The components included in Project Anarchy include the Havok Vision Engine, which comes with a complete C++ API and tools like vForge, vSceneViewer, vModelViewer. Havok Physics provides collision detection and physical simulation technology which has Havok been known for. The Havok Animation studio allows artists and designers to work on character development and optimize animation runtime. On the other hand, Havok AI provides excellent pathfinding features and character steering to provide motion to the characters in the scenes. The software bundle also includes popular third party tools like Autodesk Scaleform for UI development and FMOD for audio playback and creation.

INTEL XDK

The Intel XDK can be best defined as a sort of cloud based IDE which supplements the HTML5 mobile app development. One of its main features is the emulation of a lot of devices for HTML5 based apps and even hybrid native apps. HTML5 apps are not limited to smart web pages viewed in a browser, you can also package your HTML5 code and deploy it directly on a mobile device as a locally

installed hybrid mobile app. It supports never before heard of features in an emulator, like accelerometer emulation across all the three axes, multitouch, geolocation and allows the developer to choose the current data connection type for the emulated device. Multitouch emulation has a nice touch to it too, one can just hold the right mouse button anywhere on the emulator screen and then left click to provide multiple touch inputs. This is some of the functionality which is very well supported by hybrid HTML5 applications, which offer a good compromise of providing access to functionality like the accelerator and other sensors which are unavailable to HTML5 tools.

While an editor mode is integrated, one can very well choose to develop the app in their own IDE and upload the code here in order to test the functionality in its emulator. The editor mode also supports development of

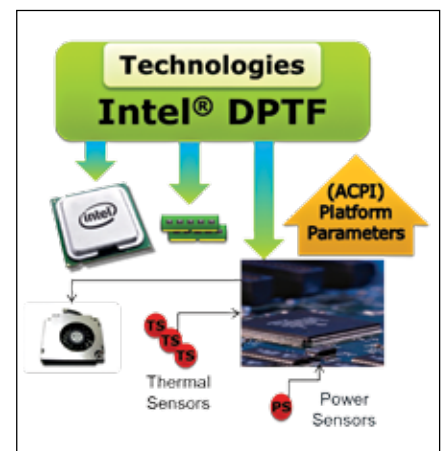


The Intel XDK environment for building apps

server side components and has ready-made templates available for ASP and PHP. It also allows for smart profiling with an application called App Preview Crosswalk which is automatically pushed to Android device to enable profiling features. The Intel XDK build service supports most popular mobile platforms, including the Android, Android Crosswalk, Apple iOS, Microsoft Windows 8, Chrome, Firefox, Amazon, Nook, and Tizen platforms. Builds are performed in the cloud, so you do not need to install and configure the SDK for each target platform.

2 IN 1 TABLET MODE GAME PERFORMANCE WITH INTEL® DYNAMIC PLATFORM AND THERMAL FRAMEWORK (INTEL® DPTF)

We live in a world where mobility is king. Our on-the-go lifestyle demands small efficient devices, from smartphones to tablets and 2 in 1s. This is how we work and, quite often, play. Power efficiency is of paramount importance in the mobile world. Intel is focused on fast, powerful, and power-efficient technologies for mobile devices. However, this push for power-efficient processors can have unintended effects on game performance. One such feature that may impact game performance is the Intel® Dynamic Platform and Thermal Framework (Intel® DPTF). Here I discuss what Intel DPTF is and the possible performance impact.



The high level Intel® Dynamic Platform and Thermal Framework architecture.

WHAT IS INTEL® DPTF?

Intel Dynamic Platform and Thermal Framework is a power and thermal management solution at the platform level that utilizes both hardware and software. Intel DPTF is a coordinated approach for different policies that affect the hardware state of a device. It acts as a container

Policy	Description
Passive	Responsible for limiting power and performance of components in response to a temperature rising above the platform trip point.
Active	Cools a platform by removing heat instead of limiting the power or performance, generally by enabling a platform fan at various speeds.
Critical	If the platform reaches a critical temperature, this policy is responsible for shutting down the system gracefully. The system can also be moved to a hibernate or shutdown state depending on what critical event occurs.

Table: Intel® Dynamic Power Performance Management thermal policy descriptions

of multiple power and thermal technologies. The high-level architecture of Intel DPTF is shown in Figure 1.

Intel DPTF is a BIOS ACPI implementation on specific devices/systems. Technologies contained within the framework are mainly focused on thermal management per the ACPI 5.0 specification. The thermal management technology contained in Intel DPTF is called Intel® Dynamic Power Performance Management (Intel® DPPM). Intel DPPM is an intelligent closed-loop hardware and software solution designed to manage platform thermals in a constrained design. An OEM design team controls platform skin and component temperatures, allowing them to design for a "typical" rather than "worst case" power scenario and minimize any performance impact. Intel DPPM technology has a series of policies that can be used to more efficiently control platform behavior when a thermal event is triggered, see Table 1.

GAME PERFORMANCE IMPACT IN TABLET MODE ON 2 IN 1 DEVICES

A very small number of game developers have reported performance issues with 2 in 1 devices in tablet mode that are attributed to Intel DPTF. In tablet mode Intel DPTF will often use a passive policy, meaning available power is reduced so the device stays at a comfortable thermal level for handling. Whereas in laptop mode the device is often sitting on a surface and skin temperature is less of a concern. The processor increases frequency in response to application need by utilizing Intel® Turbo Boost Technology. When increasing above the base frequency there are 2 limits, the max frequency (defined by the OEM) and the power available. As Intel DPTF has lowered the available power to keep the device from getting too warm to comfortably hold, it also restricts how far Intel® Turbo Boost Technology can increase the frequency and thus lower game performance.

Intel DPTF is a power and thermal management solution designed to extend battery life for mobile devices. Often the key to extended life is lower power usage, limited power means lower operating frequencies. Something that is not an issue with common applications, but in rare cases may have an impact on game performance in tablet mode. Game performance is not always impacted as a result of Intel DPTF, but it is possible. If you are observing a performance difference between tablet and laptop modes on a 2 in 1 device with your game, there is no function within the graphics driver or operating system

to disable Intel DPTF. If the OEM's design team included the option to disable Intel DPTF, consumers can disable it, but doing so will sacrifice battery life. Disabling Intel DPTF requires the consumer to enter the configuration section of their device's BIOS.

MULTI-MEDIA SAMPLE FRAMEWORK (MMSF)

The Multi-Media Sample Framework provides a robust set of basic functionality that can help you develop rich media applications. It accomplishes this by delivering a simple unified environment from which to access and explore video decode, 3d graphics, real-time frame/image processing, and camera capabilities available on Intel® processor-based platforms, either Windows or Android. Developers working in the areas of local video playback, streaming video playback, multi-stream video playback, image processing, video processing, or camera-centric applications in general may find the Android and/or Windows MMSF samples useful. In particular the MMSF focuses on offloading as much work as possible to either fixed function hardware or the graphics processing unit. This results in very low CPU utilization at runtime for both single and multi-stream video playback cases and opens the door for developers to leverage additional processing on the CPU if needed.

MMSF makes use of three core capabilities present on most modern operating systems. These include: video decode, camera, and 3d graphics. Please note that depending on the operating system, the libraries which expose the capabilities described will be different.

FEATURES

- Supported Operating Systems - Android* 4.4.x and higher, Windows* Vista*, 7, 8 and higher.
- Video Decode - Provides a basic video decode pipeline. Single or multiple streams may be decoded concurrently.
- Camera Feed - Provides integrated camera capabilities that allow capture, processing, and display of camera data.
- Pre-Processing - Provides a simple pixel/fragment shader based mechanism for processing and manipulating camera data before it is displayed.

- **Post-Processing** - Provides a simple pixel/fragment shader based mechanism for processing decoded video frame data before it is displayed.
- **Display to 3D Geometry** - Provides capabilities to display video information on scalable 3D geometry.

INTERNET OF THINGS

Internet is the next level of evolution towards developing connected devices. With the help of unique hardware and developer kits along with sensors available from Intel you can create smart devices that interconnect with each other and automate your life like you never imagined before. The developer kit for IoT includes a development board and starter kit including Yocto Linux system, Eclipse and XDK IDE, IoT Cloud Analytics, a set of libraries, and more. Developers can choose to order either the Intel® Galileo or Intel® Edison board and the Grove Starter Kit Plus - Intel® IoT Edition. More details like the getting started guide, documentation, project gallery and forums are available at <http://maker.intel.com>.

WHAT'S INSIDE THE GROVE STARTER KIT PLUS - INTEL® IOT EDITION:

Base Shield v2

Grove - Buzzer



The Grove Starter Kit Plus - Intel® IoT Edition

Grove - Button
 Grove - LED
 Grove - Rotary Angle
 Grove - Sound Sensor
 Grove - Smart Relay
 Grove - Temperature
 Grove - Touch Sensor
 Grove - Light Sensor
 Grove - Mini Servo
 Grove - LCD RGB Backlight
 8GB Micro SD Card with an SD Card Adapter
 9V to Barrel Jack Adapter - 126mm
 26AWG Grove Cable
 Micro USB Cable
 Serial Cable
 Ethernet Cable

INTEL GALILEO

The Intel® Galileo Gen 2 board falls in the family of Arduino-certified development and prototyping boards based on Intel® architecture and specifically designed for makers, students, educators, and DIY electronics enthusiasts.



The Intel Galileo board

Providing users with a fully open source hardware and software development environment, the Intel Galileo Gen 2 board complements and extends the Arduino line of products to deliver more advanced compute functionality to those already familiar with Arduino prototyping tools. The Intel Galileo Gen 2 development board is designed to be hardware-, software-, and pin-compatible with a wide range of Arduino Uno® R3 shields and additionally allows users to incorporate Linux® firmware calls in their Arduino sketch programming.

FEATURE HIGHLIGHTS

- Intel® Quark SoC X1000 application processor, a 32-bit, single-core, single-thread, Intel® Pentium® processor instruction set architecture (ISA)-compatible, operating at speeds up to 400 MHz.
- Support for a wide range of industry standard I/O interfaces, including a full-sized mini-PCI Express® slot, 100 Mb Ethernet port,

microSD® slot, USB host port, and USB client port.

- 256 MB DDR3, 512 kb embedded SRAM, 8 MB NOR Flash, and 8 kb EEPROM standard on the board, plus support for microSD card up to 32 GB.
- Hardware and pin compatibility with a wide range of Arduino Uno R3 shields.
- Programmable through Intel's Arduino integrated development environment (IDE) that is supported on Microsoft Windows, Mac OS, and Linux host operating systems.
- Support for Yocto 1.4 Poky Linux release.

WHAT'S NEW WITH THE INTEL® GALILEO GEN 2 BOARD

- 6-pin 3.3V USB TTL UART header replaces 3.5 mm jack RS-232 console port for Linux debug. New 6-pin connector mates with standard FTDI* USB serial cable (TTL-232R-3V3) and popular USB-to-Serial breakout boards. 12 GPIOs now fully native for greater speed and improved drive strength.
- 12-bit pulse-width modulation (PWM) for more precise control of servos and smoother response.
- Console UART1 can be redirected to Arduino headers in sketches, eliminating the need for soft-serial in many cases.
- 12V power-over-Ethernet (PoE) capable (PoE module installation required).
- Power regulation system changed to accept power supplies from 7V to 15V.
- The Intel® IoT Developer Kit for Intel Galileo Gen 2 adds C, C++, Python, and Node.js/ Javascript support for developing connected sensor Internet-of-Things applications.
- Intel Galileo also supports the Wylodrin platform that provides Python and Node.js Programming environments from a remotely-connected browser.
- In addition to open source Yocto Linux, Intel Galileo Gen 2 supports VxWorks (RTOS), and now Microsoft Windows is supported directly from Microsoft.



The Intel Edison board

INTEL EDISON

Intel® Edison is a solution designed to lower the barriers to entry for quick prototyping and productizing the connected computing devices driving the next industrial revolution. This wave of connected devices will be a diversified collection of products invented for specific consumers and consumer needs.

The Intel Edison solution was designed specifically for the creators of these devices-emerging entrepreneurs eager to invent the future. It combines a small, powerful, adaptable hardware platform and partner-enabled ecosystem with extended software compatibility and supportive online environment. You can even take this to the next level with the help of open source expansion boards for Edison and utilize the community's inputs to bring the best of everything together.

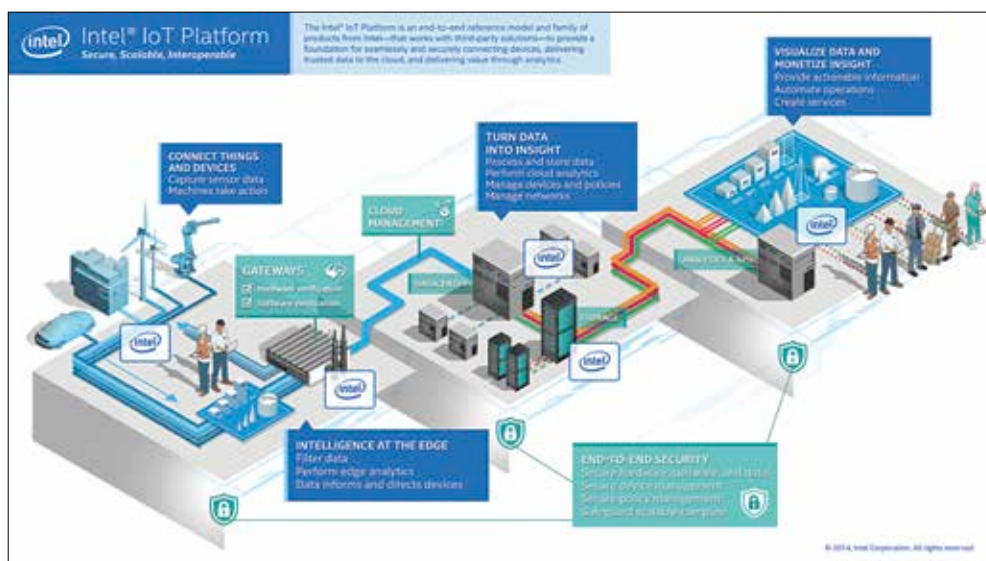
FEATURE HIGHLIGHTS

- At the center of Intel Edison is an Intel® Atom™ 22nm SoC with a dual-core CPU at 500MHz and the Intel® Quark™ microcontroller at 100 MHz. This allows the product to collect and preprocess data via the MCU in a low power state and hand the filtered data off to the CPU for analytics. Edison includes 1GB of memory, 4GB of storage and dual-band Wi-Fi and Bluetooth 4.0 for communications. It supports 40 GPIOs with multiple configuration options
- High performance, dual-core CPU and single core micro-controller supports complex data collection in a low power package
- Integrated Wi-Fi, Bluetooth Low-Energy (LE), memory, and storage simplifies configuration and increases scalability
- 40 multiplexed GPIO interfaces with expansion board options for total project design and flexibility
- The Intel® IoT Developer Kit for Intel Edison adds C, C++, Python, and JavaScript support for developing connected sensor Internet-of-Things applications.
- Supports a variety of Integrated Development Environments such as Arduino*, Eclipse*, Wylodrin*, and Intel's XDK.

SOFTWARE IMAGE:

Intel also provides integration and availability of a wide variety of software to go with the hardware kits to enable the best out of IoT devices. Here is an overview of what you have access to: -

For Intel Galileo: Yocto 1.6 based embedded Linux boot image that includes helpful Linux tools



Intel® IOT Platform

(GCC tool chain, perf, oProfile, etc.), required drivers (WiFi, Bluetooth, etc.), useful API libraries, and daemons like LightTPD and Node.js.

- For Intel Edison: The dev kit libraries are already included in the OS distributed with the Edison development board.
- Additional packages for both Intel Galileo and Intel Edison can be installed through the opkg package manager
- IDE/ Programming language choice: Once you have chosen the hardware components and the software image to use, download the IDE you want based on your programming language preference.
- C/C++ - Eclipse* IDE - C/C++ application development toolkit includes:
 - 1.1. Eclipse IDE for Windows, Mac or Linux
 - 1.2. All the essential tools you need (cross-compiling tool chain, debugging and profiling tools)
 - 1.3. Libraries to connect and access the Galileo or Edison boards + Sensor libraries
 - 1.4. Useful templates/ samples to help you start building IoT applications quickly
- JavaScript / Intel® XDK IoT Edition. You can build complete IoT solutions using Node.js on-board apps and companion apps (html5). Please note that Intel XDK - IoT Edition is available for download at <http://software.intel.com/iot>.
- Arduino IDE. Develop IoT solutions using the Arduino Sketches. Make sure to download and install the latest Arduino software and board support package from <https://communities.intel.com/docs/DOC-23242>

- Wylodrin - Visual programming (Galileo Only): Wylodrin is a third party solution that allows you to visually create applications for your Intel Galileo Board and control it directly from a browser. With Intel Galileo you get one year free subscription that allows you to use 3 boards and create 15 applications. Some very good step by step video tutorials to help you understand what you can do with Wylodrin are available at <http://wylodrin.in/galileo>.
- Cloud Analytics (<http://enableiot.com/>): Intel IoT Analytics includes capabilities for data collection, storage, and analysis of sensor data. It also allows you to run rules on your data stream to trigger alerts based on advanced analytics. This is a free service from Intel for limited non-commercial use.

ADDITIONAL TOOLS AND SOLUTIONS FOR OPTIMIZATION AND PERFORMANCE

Intel System Studio for IoT - An integrated software development suite that provides deep hardware and software insights to speed development, testing and optimization. Supports Intel Quark (Galileo) and Intel Atom (Edison) with features such as debuggers (JTAG, using open OCD), Intel C++ compiler and performance libraries/tools. Intel System Studio is available with a non-commercial use trial license. More details are available at <https://software.intel.com/en-us/articles/intel-system-studio-for-iot>

Wind River VxWorks* for Makers (Galileo Only) - is a professional operating environment for embedded devices. It is the plat-

form you choose if you want to commercialize that really cool idea you have for a killer product. VxWorks is modular and optimized for different types of applications. There are medical, industrial, safety and security profiles that can be added to core VxWorks to tune the solution for users. VxWorks for Makers is available with a limited non-commercial use trial license. You can dig further at <http://support.windriver.com/formakers>

In conclusion, Intel® provides a host of development tools, engagement opportunities and a well-developed community for its software development platforms, which you can leverage to take a leap into the next generation of computing platforms and reach a wider audience with better opportunities and

innovative products, that too with deeper market penetration with much faster time to market. The Game Dev products including Intel INDE already provide a complete suite of software to enhance your software development process at every step, which in addition to the RealSense SDK, becomes a one stop solution for all your needs with respect to Game Development. The Intel® XDK taps into hybrid HTML5 apps and provides integrated environment for developing, previewing, debugging and packaging such apps for the mobile web. What's more you can even take the leap towards the Internet of Things with Intel's® developer kits like Galileo and Edison as mentioned earlier. You can dive further into Intel's offerings for IoT at <http://software.intel.com/iot>. ■

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Visit the developer zone by following this link
<http://intel.ly/1xWPU1p>
or scanning the above QR code

HERE'S WHAT YOU SHOULD SAY TO CENSORSHIP

READ

BETWEEN

THE LINES

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- 74** Free speech in india: Myth or Mystery?
- 76** How to avoid being restricted in anyway whatsoever
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CENSOR TO CONTROL

The pointlessness of it all!

Robert Sovereign-Smith

Everywhere you look, we're being muzzled. Led about like horses with blinders "for our own good".

To control and stop terrorism they monitor our digital lives... Yes please, just stop them!

Now it's piracy, or porn, or whatever suits a politician's fancy to try and stop or censor. Perfectly useful sites such as Github and Archive.org have been blocked in the past, and whatever the reasons or however well intentioned the motive, we're bordering on total control of the internet! It's not just the press anymore, it's you. Everyone is fair game now!

This cover story will help you prevent this from becoming the norm... or what's the worst that will happen? Read on...

If you've been following current events, you know that the world is pretty insane at the moment. What we've wanted to do for a while now is to tackle censorship, which we feel is a rubbish idea. Don't believe us? Ask the British. Yes you read that right, the United Kingdom has more censorship than us. Actually they're kind of more comparable in censorship to Saudi Arabia, Iran, Russia, Pakistan and China than they are to us... we're still liberal in comparison!

The problem is that once you get people used to the idea that the government knows best, well, you're screwed. We all know the theory, the government consists of people elected by us, and thus are the best representative of our collective will... yada, yada, ad nauseum, ad infinitum.

If we were electing computer programs to run our affairs, then yes, this would work flawlessly. We know code, and what it's designed to do; we don't know people, and what hidden agendas they may have, or even what their biases or leanings are. Plus, people lie, computers don't.

Now all of us are aware of the lack of freedom in the physical world, especially in India, where any group bigger than 10 with a fistful of cash can pretty much take over a street and inconvenience hundreds if not thousands of people, because, heck,

it's mob rule, and politicians are quick to appease any seemingly popular or "large" group. However, dare you express your opinion on social media that "hurts someone's sentiments", (an important someone obviously, not unimportant people like us); depending on what you said it's either jail, death, being beaten up or made to eat crow in some horrendous manner - all because someone was butthurt by your words or drawings!

What's worse is that apologists will nod their heads knowingly, and say, "(S)he had it coming... you can't just say anything you want!". These apologists probably define free speech as:

Free Speech (noun) the right to express opinions with as much censorship and restraint as possible, without being charged a fee for doing so.

A millipede in a mine field

(For their army of legs, you know?)

The aim is to get people to self censor. Why? Because you can't really beat up or jail a million voices, but by publicly doing it to a few, even if you apologise later, it's bound to silence a million who will think, "Better be careful, I don't want that to be me!" So we end up tiptoeing all our lives.

Terrorism

"You can't complain! Gasp! If you do, the terrorists win! How can you fault censorship if it helps stop terrorism?"

Yes, that's the kind of "logic" people have used in the past.

Ever thought that the terrorists are also for censorship, and kill to silence dissenters or people of other opinions? So what's the difference between what governments try and do to you?

Big corporations do the same to smaller ones by threatening to sue. Censorship in the name of terrorism is pretty much just one bully harassing you by claiming to protect you from another! And for the love of god, just leave Github and Archive.org alone, would you?

Piracy

Die ye surfing scallywags! Think of the poor movie stars and recording artists who have to go through life being rich, but not filthily so. If only you'd stop pirating, they'd be able to buy a third private jet so their groupies don't have to travel, ugh, first class!

Imagine a world without piracy. Seriously, close your eyes, imagine this alternate reality. What did you get? An image of a world where Linux was the dominant OS (95%), we're all watching YouTube videos for entertainment, and listening to internet radio with ads... Or did you actually imagine being a lot poorer than you already are because you paid for all the pirated stuff you have consumed in this reality? Get it?

Still, it makes a great story when you orchestrate a manhunt across continents to catch a few The Pirate Bay geeks! This is the entertainment industry's version of "We got him!" So what does all this do to piracy? Honestly, absolutely nothing.

Porn!

Perverts. Degenerates. Don't you know that all of you porn watching people can at any moment turn into rapists or serial killers?

It's not like you need science and studies to prove any of this. A politician's opinion is usually good enough in our country. The land that gave the world the Kamasutra will now ring the alarm bells on online skin.

As an aside: the Digit team had a gala time surfing for porn in the office. Why? We wanted to research exactly how messed up Indians are when it comes to this. Turns out, people are just depraved perverts! We've even read comments on a picture that made our brains want to explode. What was the picture of? A shot of naked feet! Go ahead powers that be, block porn in 2015, and see the country really go crazy!

So what does this all amount to? Nada. Zip. Zero. Nothing. A great goose egg! That's the entire point of the stories that follow - the absolute pointlessness of censorship, and why you shouldn't allow it! **d**

FREE SPEECH IN INDIA: MYTH OR MYSTERY?

To go silently into the night is akin to not have existed at all. We speak, therefore we are. And just how tolerant are we of all our unique voices? Time to introspect is now.

Jayesh Shinde

For a country boasting of strong secular fundamentals, democratic values, aiming to be a superpower of the 21st century, our nation's (and its lawmakers') commitment to preserving and protecting freedom of speech and expression is flimsy at best. Nothing is in black and white, everything is a fifty shades of grey. Trying to navigate and understand the landscape isn't unlike stepping on an old landmine in the Vietnamese countryside, where all you wanted to do was take a stroll down the hill.

We know our Constitution unequivocally states that "all [Indian] citizens shall have the right to freedom of speech and expression," as highlighted under Article 19(1)(a). However, Article 19(2) is quick to emphasize that this fundamental right isn't absolute; it comes with several strings attached, empowering the Parliament to enact laws to rein in free speech for matters concerning national security, maintaining public order, decency and morality, among other things. One can argue these statutory limitations to be too broad and vague. Due to the process of constitutional amendments, sections 153A

and 153B of the Indian Penal Code (since 1972), which deals with offences against public tranquility, tighten the noose around the privileges of free speech and expression almost to the degree of making it non-existent.

You can only imagine how all of this can pose a dangerous precedent. The Internet changes the rules of engagement drastically and in the rush to control it free speech is often left haemorrhaging by the roadside. We recount the following alarming interpretations of free speech restrictions in the country which took place in the last five years, leaving you, our dear reader, to ultimately decide whether any of these constitute violations of our fundamental rights.

Ban! Ban it all!! In December 2014, the government instructed internet-ser-

vice providers (including mobile operators) to block a list of 32 websites. This caused huge uproar for the netizens of the country, because websites like Github, Dailymotion, PasteBin, Vimeo, Archive.org and Imgur were part of the list and were blocked outright. They were completely inaccessible. Why? India's Anti Terrorism Squad had sniffed out anti-India content on these websites tracing it back to the terrorist group ISIS (also known as IS or ISIL). A couple of days later, the ban was reversed. This exposes either the brazen laziness or rueful lack of understanding between a website and a web page of our authorities. Couldn't they have just blocked the questionable pages, and left the rest of the website running? Jeez Luigi!

Just a Facebook comment: In a troublesome case of impeding free speech online, two women from Palghar (situated approximately 100 km from Mumbai) were detained for posting a Facebook comment questioning the need to shut down the coastal city after the death of a popular political leader, Bal Thackeray of Shiv Sena party, in November 2012. This obviously didn't sit down well with party



Watching your every digital move

workers, one of whom lodged a complaint against the woman who posted the comment. Police not only arrested her, but also detained another woman who had “liked” the original comment. Their alleged crime? Hurting religious sentiments. Read the original Facebook comment and make up your own mind: “People like Thackeray are born and die daily and one should not observe a bandh for that.” Thanks to the judiciary, which swiftly threw out the case against the women, but the conduct of the state and police in dealing with this incident was worrisome to say the least.

No cartoon do: In 2012, a political cartoonist, Aseem Trivedi, was arrested for depicting our country’s national emblem by replacing the four lions with wolves. He also replaced “Satyamev Jayate” (truth alone prevails) to “Bhrashtamev Jayate” (corruption alone prevails). He also drew something that loosely resembled the Indian Parliament building labeled “National Toilet.” His right to free speech and expression was reined in by slapping sedition charges. What does our sedition law say? He who “brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the Government established by law in India” could face life imprisonment. The law was drafted back in 1870 when our country was part of the British Empire. Although Trivedi was released shortly after his arrest, did he draw something far worse than what political commentators pen down in newspaper op-eds on a daily basis or what the disenchanted public feels about the issue of corruption in the country? And when are our sedition laws going to join the rest of us in the 21st century?

Block website = prevent communal violence: Sticking with 2012, which seemed to be a landmark year in impediments to free speech, the government justified its blockade of Twitter handles, specific websites and news portals to prevent tensions from simmering and spread of ethnic violence (through inciteful online messages) in north eastern part of the country. Firstpost.com, Kanchan Gupta (a columnist who doesn’t mince his words when it comes to taking on the government), and several specific anti-government news stories faced online blocks without any intimation, as per the rules of our IT Law. The rulebook was pretty

REPORT: ONLINE FREEDOM IN INDIA

Freedom House is a leading global US-based NGO that does a lot of work in the area of democracy, political freedom, protecting civil liberties and human rights. According to a report from 2014 labeled Freedom on the Net, India has a “Partly Free” status since 2009 as far as preserving the freedom of the Internet goes. You can download the full report (in PDF) here: <https://freedomhouse.org/sites/default/files/resources/India.pdf> but alongside are some of its key insights:

	2013	2014
Press Freedom Status	Partly Free	Partly Free
Internet Freedom Status	Partly Free	Partly Free
Obstacles to Access (0-25)	15	13
Limits on Content (0-35)	12	10
Violations of User Rights (0-40)	20	19
TOTAL* (0-100)	47	42

much thrown out as the government of the day, through the Ministry of Home and Communications and IT, arm-twisted the ISPs into censoring content online.

Fahrenheit 451 = No books allowed: The Center for Internet & Society notes that defamation lawsuits have emerged as a powerful tool recently too squelch voices of dissent emanating from writers and the press, deployed by “individuals and corporations in positions of power and authority, and invariably as a means of silencing criticism.” In one of their reports, they point out how “Hamish

And Ray Bradbury’s prophetic, dystopian future may well be what we are left to inherit very soon.

We must understand that our fundamental right to freedom isn’t absolute. It comes with constitutional checks and balances, and many argue that it’s inevitable in a multi-cultural, multi-religious melting pot that we proudly reflect upon India to be. But it’s incumbent upon the government, law enforcement and judicial system to maintain and preserve the rights of an individual as much as a group of people. And our state machinery needs



Uh oh. We’ve just reprinted cartoons about politicians... Goodbye cruel world!



MacDonald’s *The Polyester Prince*, a book about the Ambanis, was unavailable in Indian bookshops, because of threats of defamation lawsuits.” Bloomsbury also recently withdrew *The Descent of Air India*, which scrutinized ex-Aviation Minister Praful Patel, after the latter filed a defamation lawsuit. Sahara managed to get a stay order on an investigative book about the conglomerate from a Calcutta High Court judge, who cited only one paragraph from the book. At this rate, we will all have to read fictitious books in the recent future, if they manage to escape any fictitious lawsuits through some fictitious miracle.

to keep up with the advancement of the digital age not just to spy on its citizens but also to understand their sensitivities. Especially, in the age of the Internet, where everyone’s voice or written word has a far greater reach than the era of our founding fathers – where most of our laws feel to emanate from. Instead of being stuck in a time warp, laws need to reflect modern reality; instead of being convoluted and broad-stroked, they need to be straightforward, precise and easily interpreted. Only then can free speech in India stand to have any chance of not just surviving but also flourishing. **d**

ONLINE COMMAND & CONTROL

How to avoid being controlled, threatened, limited, blocked, restricted in anyway whatsoever. It's difficult, privacy is a process not a product. But with some time and effort, getting close to perfect is possible.

Jayesh Shinde

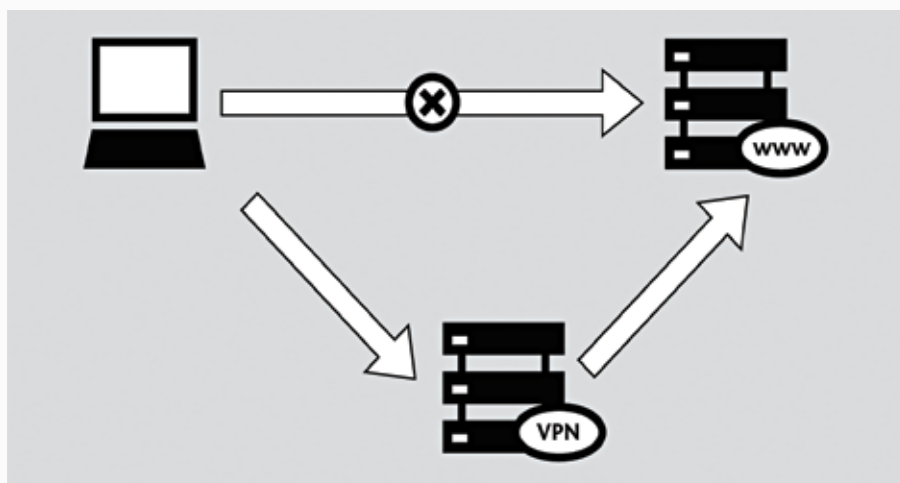
There are some things that are just plain illogical. Like defining broadband in kbps (what is this, TRAI, 2005?), selling unlimited bandwidth at 20GB monthly caps (you, too clever for your own good ISPs, you!), and the existence of late 20th century relics known as “STD/ISD/PCO” (seriously, who still uses them?). Then there are other things that are more alarming than trivial, for their ability to set a dangerous precedent. Something that denies you your basic freedom even. For all of us who can't live without the Internet, who co-exist harmoniously in the Digital Age of the 21st century, wanton censorship of the Web is akin to denial of one's liberty. The freedom to access anything that can be accessed legally. In the wise words of Henry Ward Beecher (and a certain character portrayed by Matt Damon), what is freedom or liberty if not a soul's right to breathe? And when it cannot take a long breath, laws are girdled too tight. “Without liberty, man is a syncope.” Do watch Good Will Hunting, it's a fascinating movie, especially this court monologue citing Beecher.

Not only is liberty to move around freely on the Internet's digital highways a prerequisite in the modern world, we also don't want to be collateral victims of mass surveillance programs whenever we happen to be on the Internet and the World Wide Web. For what is censorship or filtering of Internet if not the first steps towards monitoring or surveillance? Not only freedom, we value our privacy online as well, which isn't too much to ask for in a

land of democratic values is it now? Turns out, it isn't a simple yes or no answer.

It's all about control

Who is able to restrict access to the Internet on any given computer in any given country depends on who has the ability to control specific parts of the technical infrastructure. This control may be based on legally established relationships or requirements, or on the ability of



Deploying a VPN is a tried and tested method to bypass online censorship

governmental or other bodies to pressure those who have legal control over the technical infrastructure to comply with requests to block, filter or collect information. Many parts of the international infrastructure that supports the Internet are under the control of governments or government-controlled agencies, and they may easily assert control, in accordance with local law or not. Sounds scary, doesn't it?

Filtering or blocking parts of the Internet may be done in a subtle fashion without any prior notice to users or it may be in the form of clearly defined public agenda, but it almost always invites criticism. Various countries openly block various parts of the Internet as part of a well-established policy (like China), and restrict access to websites with takedown notices for people to read (like the FBI did in the case of Megaupload.com). What is deplorable, though, is when nation states either collude with or force ISPs to filter content disguised as technical failures without taking any responsibility for their actions. That's certainly damaging for everyone who's in favour of an open, free and fair global Internet.

Take back control

As the American computer innovator John Gilmore noted in a TIME magazine article, way back in 1993, "The Net interprets censorship as damage and routes around it." Prophetic words indeed, ones that still ring true. As long as you are absolutely certain to tear down imaginary digital walls that prevent you from accessing whatever it is that you want to access, know that the setback is only temporary and all's not lost. Despite censorship, content filtering, and other Internet restrictions, there are ways to circumvent roadblocks to get what you want. However, by doing this, only you can accurately ascertain the risk vs reward tradeoff in your actions. While there may not be specific laws preventing you from accessing perfectly legal, freely available content on the Web, spreading it may increase the odds of further inviting trouble – harassment of some kind, job termination, cyber bullying, incarceration, or worse. Having said that, remember that staying truly anonymous online isn't easy. Plenty of so-called full-proof, encrypted software abound on the Web, but who can

FROM THE NSA FILES

As far as mass surveillance programs go, the NSA's PRISM is pretty much the gold standard in the world, based on publicly available information. If the NSA has trouble breaking into any encrypted system (or communication), it can be safely assumed that your secrets are safe from almost any other crypto-analytic mechanism of the world as well. But the NSA has so much data to analyze and break down, how does it grade all that data going out into the world and funneling into their systems? And on occasions when it happens, how does it ascertain that it has finally met its match?

According to freshly leaked NSA documents, the NSA grades their target from a scale of one to five, or trivial to catastrophic, where one is the easiest target to break while five is almost impossible to break (never say never, right?). For instance, breaking into a Level 1 target requires little or no effort because of the "trivial" nature of decryption techniques. Looking into someone's Facebook message, according to the leaked NSA documents, is a "minor" Level 2 decryption task. If you're connecting to the Internet and surfing the Web through just the Tor browser alone to avoid detection, monitoring your activities is a Level 4 "major" undertaking. Difficult to crack, sure, but not impossible. No sir. Catastrophic it surely isn't.



accurately tell which ones are monitored by the powers that be? Tread with caution.

1) Covering the basics

You're gung-ho about covering your tracks online but don't want to go to great lengths to arouse unwanted suspicion. All you're worried about is to circumvent online blockades that prevent you from accessing websites that you can't live without or you want online entities to just respect your privacy and not snoop around your digital tracks. For all you casual privacy enthusiasts, here are some standard steps you should take to take back control of your online activities.

- **Proxies:** Whether at work or in school, to bypass censorship blocks, you can merely visit <https://www.browseatwork.com> and enter your page request, and voila!, you'll notice how this simple but effective tool will deliver on most of your requests. You can install its browser plugin to securely and anonymously access content off any website. You can also visit <https://www.proxymag.com/proxy> or Google "free proxies" and see which one works for you best.

- **Browser plugins:** It's funny how the Web operates, and also how online censorship agents don't understand how to block efficiently. If less-diligent blocking mechanisms only take out HTTP access to a web server, there's an outside chance that you can still access it through an encrypted HTTPS connection. To that effect, install the HTTPS Everywhere (<https://www.eff.org/https-everywhere>) extension jointly developed by the Electronic Frontier Foundation and The Tor Project. Through this browser extension – supported on all major browsers – your incoming/outgoing web connection is encrypted end to end. It also gives you a basic bypass against ill-implemented censor blocks.
- **Change DNS:** This is not so much for anonymizing your presence but for speedy, reliable access to online information. In case your ISP's primary DNS setting is malfunctioning (hint: website requests timed out, too many page not found errors, and just generally slower than usual connection) or if your office Internet connection has

started censoring content, it's time to manually switch your PC's IPv4 DNS to 8.8.8.8. Why? Because it's a DNS server maintained by Google, which is safe, secure, speedy and reliable. It also doesn't censor anything.

- **Private search engine:** Every search engine you can think of tracks you in a myriad ways. Time to go private through some of these invasion-free search engines that don't track your data or store long-term cookies. We've mentioned DuckDuckGo (<https://duckduckgo.com>) several times before, but also spare a glance to Ixquick (<https://ixquick.com>), StartPage (<https://startpage.com>), and Yacy (<https://yacy.net>). They either search popular search engines on your behalf, while keeping you anonymous, or decentralize search through P2P.
- **Secure email:** If you're worried about American webmail companies willing to subpoena, check out Hushmail

and you're willing to walk that extra mile for the peace of mind of knowing that your online privacy levels are hitting the bar you've set yourself offline. You understand that security is a process, not a purchase. Do all of the things above, sure, but there are certain additional choices you need to make.

- **Browser:** Just start out with Tor (<https://www.torproject.org>) and start anonymizing your traffic, if your privacy concerns have risen by this point. The Pirate Browser's (<https://piratebrowser.com>) motto is "No more censorship." It is a bundle package of the Tor client (Vidalia), Firefox Portable browser (with foxyproxy addon) and some custom configs that allows you to circumvent online censorship. Be warned, by installing Tor or Pirate Browser, the chances of you getting noticed by law-enforcement agencies will only increase, because you're making yourself difficult to find online.

pads are automatically destroyed after 30 days of inactivity.

- **Encrypting communication:** PGP (Pretty Good Privacy) or GPG (GnuPG, a newer model, <https://pgptools.org>) is an end-to-end encryption software for securing emails and files. Both these services use cryptographic algorithms to scramble your data, and security analysts and Internet freedom activists believe that eavesdropping into this encrypted communication is difficult even for the NSA at times. It's a similar story with ZOHO (<https://www.zoho.com>), whose email and chat service proved a tough nut to crack. Just make sure your OS isn't pirated or infected with malware – if so, you've lost a trick.
- **Local encryption:** This may come as a surprise but TrueCrypt (<https://www.truecrypt.org>) – a file encryption service that security analysts (and even the NSA) has trouble breaking into. Using it properly does take considerable amount of time and effort, though. One of the advantages of TrueCrypt (over some of its competitors) is that it not just encrypts file with a strong algorithm, but it also makes files look like they're something else.
- **VPN:** Virtual Private Networks are great to securely bypass online censors and thereby stay anonymous (to an extent). The way it works is if you're trying to access Netflix from India, through a VPN tunnel, Netflix servers may not be able to know if you're from India or some other part of the world where Netflix is supported, thereby lifting your online entertainment roadblock. VPN services like OpenVPN, AirVPN (<https://airvpn.org>) – run by online hacktivists that reject censors and embrace privacy, and HideMyAss (<https://www.hidemypass.com>) are a few good VPN services. In the VPN world, a paying customer generally gets better service, as a thumb rule.



For end-to-end encrypted email, protected by Swiss Privacy Laws

(<https://www.hushmail.com>), a Canadian email service provider, claiming to respect "the basic human right to privacy." Like all good things in life, it comes at a price, and isn't free. If you don't want to do that, start using Mozilla Thunderbird email client (www.mozilla.org/thunderbird), as it's proven to have a great security and privacy track record. Also check out RiseUp (<https://riseup.net/en>), a secure email service that isn't subject to court orders.

2) For the mildly paranoid

You're a private person. Privacy matters to you more than the Average Online Joe,

That by itself is a red flag.

- **Social networks:** Nope, don't start laughing. Facebook, Twitter and Google+ can't offer you privacy and being the real you at the same time, and we know that all too well. What you need are alternative social networks, or redefining a traditional social network setup. Check out <https://pump.io>, an activity stream server which "does most of what people really want from a social network." RiseUp Pad (<https://pad.riseup.net>) is another "web application that allows for real-time group collaboration of text documents." Riseup claims to not store IP addresses and

3) For the severely paranoid

You can't be severely paranoid about something without being mildly paranoid. Before taking the steps given below, remember that all of this doesn't work if you ignore all of the points mentioned before. Your paranoia about online censorship and preserving your anonymity

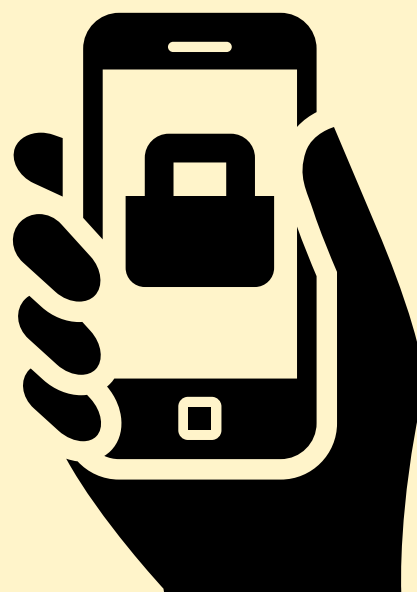
can be eased a long way if you took some of the following measures:

- **Social = unsafe:** We all know that almost all popular online services and software, including social media websites, are on the NSA's radar. Not just abuse of privacy, you should be cautious about PII (personally identifiable information) being compromised by scamsters, malware players as well – often leading to potential damages. Leaving a trail of your activity on Facebook, Twitter, Google+ or any other social hotspot is only as good as leaving yourself vulnerable and exposed. Not a good idea.
- **Encrypted OS:** If you can't encrypt your OS (Windows, Mac, or Linux), you simply aren't trying hard enough. TrueCrypt, as mentioned above is a great tool to secure files and folders on your system, at an OS level. You can also check out Tails (<https://tails.boum.org>), a live OS that can boot off a USB stick, leaves no trace on the computer you are using and deploys state-of-the-art cryptographic tools to encrypt your files, emails and instant messaging. Similarly, BackTrack Linux (<http://www.backtrack-linux.org>) is also very secure. For supported Android smartphones, rooting and installing Replicant (<https://www.replicant.us>), F-Droid (<https://f-droid.org>), and The Guardian Project (<https://guardianproject.info>) are good secure anonymizing options available to users currently.
- **Email? ProtonMail:** At this level of paranoia, no other email service will cut it for you, only the "best" will do. Developed by MIT and CERN scientists, with servers housed in Switzerland (world's most neutral spot), this email service has even the NSA sweating it out. It's currently open to access by invitation only, and in beta phase, as the scientists who made it are also actively researching in math, computing and physics. But if you can manage to get access to ProtonMail (<https://protonmail.ch>), which also has supported mobile apps, you can say goodbye to any other non-secure email service you've been using all this while. Alternatively, use disposable email services – GuerillaMail (<https://www.guerrillamail.com>) is one of the best in the business.

FOR YOUR PHONE


From the outset, it's difficult to anonymize one's activity over smartphones (because of all the radio communication carried out by them). Still, preventable measures to reduce your exposure to the bare minimum, is possible. Use Replicant (as mentioned elsewhere) to boot an alternate OS onto supported Android ROMs. Use CryptoSMS, for encrypted SMS (<https://www.cryptosms.org>) between devices. The Orbot app is essentially Tor for Android (<https://guardianproject.info/apps/orbot>) with Orweb, being a Tor-like browser. Gwibberbot is a secure chat service: (<https://guardianproject.info/apps/gibber>), while the Linphone is a secure Skype-like VOIP client: (<https://linphone.org>) similar to RedPhone. For encrypted phone calls, use Ostel (<https://guardianproject.info/apps/ostel>) and make sure you use Pul Wi-Fi scanner (<http://pulwifi.en.uptodown.com/android>) to check if your Wi-Fi password and network is secure.

The Guardian Project (<https://guardianproject.info>) and F-Droid (<https://f-droid.org/about>) has a whole host of software and apps for smartphones to ensure greater privacy and anonymity online through your smart devices (tablets, too). The Tor Project endorses the following apps from F-Droid: Xabber, Offline Calendar, Plumble, K-9 Mail and APG, OSMAnd-, Launch App Ops, Permissions, CatLog, OS Monitor, and Intent Intercept, among other things. For the full list, and steps to make a Google Nexus 7 tablet completely bug-free, go here: <https://blog.torproject.org/blog/mission-impossible-hardening-android-security-and-privacy#Software>



- **OTR:** A protocol called Off-the-record, which is a champion of end-to-end encrypted communication, is emerging as another blind spot as far as the NSA's concerned and resonating among privacy activists online. Using services based on OTR protocol are critical to have the maximum chance of ensuring the privacy of your communication. Check out Cryptocat (<https://crypto.cat>) and BitlBee (<https://www.bitlbee.org>).
- **Leave no trace:** Apart from encryption to anonymize yourself while you're in the system, you must not forget to wipe clean your tracks. This is especially true if you're accessing personal files in a non-secure location (like a work computer or cyber cafe). For this, we recommend simply BleachBit (<http://bleachbit.sourceforge.net>), which single-handedly frees disk space and tirelessly guards your privacy. Free cache, delete cookies, clear Internet history, shred temporary files, delete logs,

and discard junk you didn't know was there. Beyond simply deleting files, BleachBit includes advanced features such as shredding files to prevent recovery, wiping free disk space to hide traces of files deleted by other applications, too.

- **Secret Sauce:** Since you're trying to keep the NSA's nose out of your online activities, here's a documented "catastrophic" combination of tools when deployed together will as good as guarantee your privacy online. According to freshly leaked NSA documents from December 2014, if users incorporated a variety of security measures, such as using Tor (<https://torproject.org>), to connect online, CSspace (<http://www.anonymous-p2p.org/cspace.html>), to send instant messages online, transfer files and ZRTP (an encryption technique similar to OTR) to make VOIP calls, the combination made users "nearly invisible to the NSA," according to a security report. 

WEB 3.0

With your permission, of course...

Agent 001

Date: Tue, 14 Feb 2040 08:01:08 +0530
Delivered-To: 8Jteacher@mumbaionlineschool.edu
Message-ID: <CAEKWRiP6bR0YyVKQomxowA5kiCVCGFf-iXL+A@mail.india.gov>
Subject: Re: Class 8J Submit Final semester writing project here
From: Barrendra Modama <barrama27@school.india.gov>
To: 8Jteacher@mumbaionlineschool.edu

Dear Sir,
I am pasting my project about the Net below.

The Net: Past present and future

The worldnet as we know it was made possible by the passion and toil of hundreds of engineers from the 1960s to about 1990, with notable examples such as Vinton Cerf and Robert Kahn, who invented TCP/IP, or basically the ability of networks to connect to one another – using “internetworking protocols” (later shortened to internet protocols, and now worldnet). However, it was something else that really made worldnet instantly useful and desirable to everyone.

The World Wide Web (W3) has undergone many, many interesting changes in the 50 years since a man called Tim Berners-Lee first invented it. Without the W3, there just wouldn't be anything fun to do on the old internet apart from mail (originally called electronic mail, or email).

Simple web pages were accessed in browsers at first. Just text, then images came along. As the backbone of the worldnet was strengthened, the “bandwidth” (what they called speeds back then) increased and this allowed for basic video content as well.

Between 2000 and 2010, the net archives show a huge boost in the adoption of the net.

The Wild, Wild, Web

Much like the classic and barbaric “Western Movies” that are regaining popularity

amongst rich people at cosplays, the worldnet was a lawless and terrible place between 2005 and 2015. Not much is known today about that “decade of shame”. When the Global UN online control treaty was signed in 2017 by every country unanimously, after certain horrific events that we're still not allowed to write about.

2018: the birth of our net

With the treaty signed, finally governments and regulators were allowed to control the net in their own countries. How it ever functioned before that is something most of us would never be able to imagine. Thankfully, with each government in charge, the worldnet almost overnight became a much safer place for all of us. We have all heard about the urban legends of groups of people called “hacks” (or something along those lines) revolting and being “silenced” in ways we cannot imagine, but we all know them to be schoolyard tales of exaggeration.

What we do know is that we are proud to be Indian as it was the Indian Government's suggestion to the US President on his visit here in 2015, and our eventual involvement in leading the drafting of the UN bill that brought about world peace online.

2020: The North Korean Revolt

The now aging Kim Jong-un was one of the first people to stand against the world, ridiculously trying to fight for the freedom

of the net. He refused to sign the bill, cut off the country from the rest of the world, and promptly made net access free to all North Koreans, without any restrictions. It's not uncommon to see some rebellious teenagers wearing t-shirts with his face on it. However, we have all seen the horror stories in the media about North Korea, and how people can just download anything without paying for it. How all businesses in North Korea are not bankrupt is a mystery.

Celebrating 20 years of Order

It was almost 20 years ago, (March 28, 2020) that all the straggling countries either signed on or were cut off from accessing the worldnet. Some, such as UK, Sweden and Norway were allowed to rejoin after the protests in the country died down. A rebellious Swedish site was shut down in 2022 and its founders arrested for painting streets. They were attempting to paint the words “Keep the net free” in Swedish, large enough for people to be able to see it on satellite maps.

The British protests ended spontaneously after just a week. As per some eyewitnesses from the time, the lack of access to some sort of service called Steam or Valve caused the majority of the most vociferous supporters to just give up and go home.

Now and then

The easiest way to see the superiority of the worldnet over the older internet is to do a

direct comparison from what we know. We may already know how things function now, but you have to read them side by side to really understand how strange the internet really was!

1. Web sites

Worldnet: Only government approved sites, required to give access to all their data to prevent misuse by criminals.

Internet: Any site accessible anywhere!

2. Archives

Worldnet: Only government approved archives of web sites

Internet: Archives of any site not flagged as bad by a large number of people.

3. Forums

Worldnet: Strict monitoring and controlling of posts across all forums.

Internet: Each forum was responsible for their own members. Anyone could post anything, and in some places anonymously.

4. Internet access

Worldnet: Only by inserting identity card and keying in your secret pin (identifying) to authenticate you and yourself. Each kiosk has cameras in case the government wants to confirm your identity using biometrics.

Internet: Anyone could access from anywhere, using a variety of devices.

5. Location

Worldnet: Can only access local worldnet data. As is correct, people are billed for wanting data city. Permission is required to access an unknown site from abroad. This is one area where we need improvements and the list of approved sites is growing by the day.

Internet: Could access any server across the globe, view any web page that was publicly available, etc. One of the rare advantages over worldnet, but not worth the risks.

6. Priority

Worldnet: Obviously critical services have higher network priority, and text is higher priority than, say, video.

Internet: Had a ridiculous concept of "net neutrality" which suggested that all data and all sites be treated as equals.

7. Social networks

Worldnet: All posts are public and all data is available to the government by

default, and all accounts are strictly authenticated.

Internet: Anyone could sign up as anyone without authentication, and data belonged to the individual company.

8. Entertainment

Worldnet: Pre-approved films are available as per our budgets, with a choice of thousands of movies. Music is similar, and underground music is strictly forbidden. We pay for copyrighted data to be transferred to our cloud archive, pay through cloud wallet.

Internet: People would just download any movie they wanted, or any song, and play it on just any device and not even pay.

9. Search

Worldnet: Each country has an approved search provider who is set to be the search engine for every browser in that country.

Internet: You could use any search provider, or even write one of your own!



How wonderfully organised the controlled internet is when it comes to pricing

10. Laws

Worldnet: Clearly defined with punishment and fines clearly mentioned. Fines were really hefty to act as a deterrent.

Internet: Were a very grey area.

11. Country level censorship

Worldnet: Automatically censors the words, audio and images that may be banned in your country but not in others.

Internet: No censorship at all!

12. Monitored communications

Worldnet: NOffense network automatically checks the preferences of the recipient of a

communication, and stops you from sending it if it contains inflammatory content.

Internet: Anyone could send anything to anyone else!

13. Speeds

Worldnet: Since most traffic is local, speeds are higher and pings faster. Especially useful for gaming. Unlimited access to local groups.

Internet: Had a concept of "broadband", and everyone could opt for a different speed.

14. Positivity and propriety profiles

Worldnet: We all fill in our positivity and propriety profiles (PPP) to ensure that we tell the government registry as much about ourselves as possible. This helps us get more of the information we want and filters out the things we don't want, or haven't expressed an interest in. The contrarian view always upsets people.

Internet: No filters, no profiles, no knowledge of the individual at all. Social networks

would allow two people with conflicting interests (say Atheists and Theists) to be friends. This would cause arguments at a later date eventually. They only had one service called Facebook that was somewhat akin to our current day positivity and propriety profiles. It only allowed you to like, not dislike things.

Clearly, the worldnet is so much more advanced than the internet. We really do live in wonderfully controlled and happy times.

Praise be to the gods and the government

Faithfully yours,

Barrendra Modama

Xbox controller

We show you how to infuse your Xbox 360 controller with a breath of fresh air

Streaming music

Many online music streaming services to choose from, but how to get the best?

One-stop solution to sync all your cloud storage services

Do you use several cloud storage services but don't like logging on to different websites every time? Does 42GB worth of free combined cloud storage space sound amazing? Well, odrive is what you've been always waiting for.

Abhijit Dey

abhijit.dey@digit.in

Storing and backing up all your important files and photos on hard drives may not be the best idea, especially when we already have seamless cloud storage options. There are many players in the market to choose from. You can either choose free services who don't offer much storage or paid ones who offer additional services along with huge amounts of storage. After using them for a while, you eventually



upgrade to a paid account if they fulfill your needs in terms of services offered.

So what's the problem here?

Each time you want to access those files you either need to log in to their websites or navigate through the local folders created by the service. And let's assume that you don't want to upgrade to a premium account but want to access the free version over multiple services. This is where things get tricky and difficult to organise your files. And this is where odrive comes in. Note here that its website stresses on the service being written as 'odrive' and not Odrive, oDrive or ODrive.

Available for both, Windows and Mac, odrive lets you connect to almost all the popular cloud storage services as well as



Facebook and Instagram. It doesn't have a web application and instead creates a folder on your hard drive, with different folders for different connected services. For example, after you connect your Google Drive and Dropbox account to odrive, there will be two separate folders each with files from Google Drive and Dropbox. Once you start using odrive, you'll surely be surprised by the amazing little features it packs in and will wonder where this service has been all your life.

Set up odrive

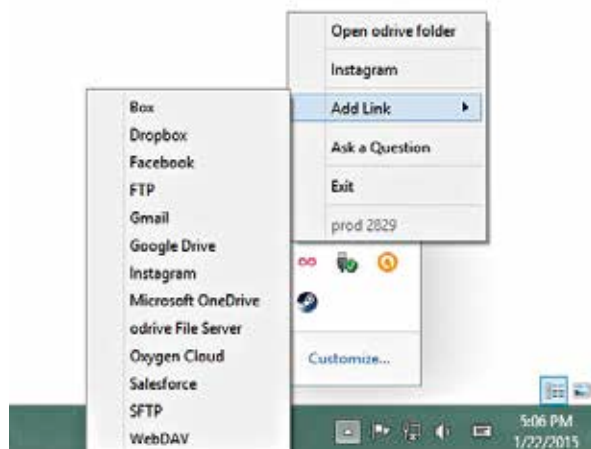
Let's begin by installing the service. Still a beta version, but a stable one, you can download odrive from <http://www.odrive.com>, or you can find the installer in our Alpha DVD under the Essentials section, included with this issue. Once odrive is installed, a folder will be created on your drive. Sub-folders for each service integrated into odrive are created. Just double-click. Also, you'll find an icon in your notification tray where you could also connect to your desired services.

odrive supports many services including Box,

Dropbox, Google Drive, Microsoft OneDrive, Oxygen Cloud, Amazon S3, Amazon Cloud Drive and Copy (coming soon). It supports file servers running Windows, Linux and Mac OS X. It also integrates into your social media accounts of Facebook and Instagram for albums and photos, and for attachments to Gmail.

Combine 42GB of free cloud storage

All the cloud storage services have free subscriptions that give you a limited amount of storage space. Imagine having to back up your documents and photos across these services, wouldn't it be an ordeal keeping track of all of them?



Connect to services right from the notification tray

Windows 10 Redux

Everything you wanted to know
Microsoft's upcoming Windows
OS. Hint: It's free for all!

88

QnA

Naughty jumping cursors, SSD
power requirement confusion, and
disk cloning issues resolved

90

Workshop

Accessing all the files from a single location or service is comparatively hassle-free. To further take the edge off this task, odrive gives you a staggering 42 GB of storage space for free. Of course, though, the amount is a combination of Box (10GB), Dropbox (2GB), Google Drive (15GB) and Microsoft OneDrive (15GB). We hope odrive integrates Mega as well (it gives its users 50GB of free space). If you have multiple accounts on one of these services, then don't worry, you can connect and sync them to odrive as well, further expanding your already huge (and free) repository of cloud storage space.

Sync, unsync, be my guest

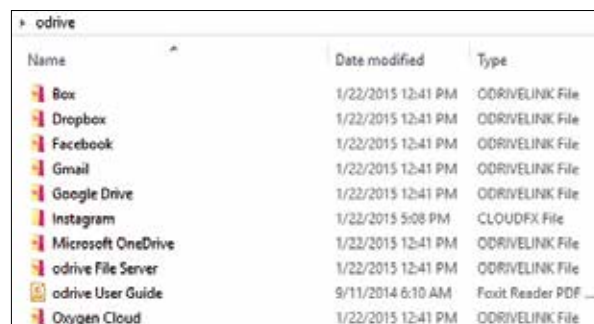
What it's calling 'Progressive Sync', and touting as a new feature, lets you choose the files you want to sync and ignore the not-so-important files. But this feature is already present in Microsoft's OneDrive and Google Drive, where there's an additional option of making the file available offline. To make files available offline in odrive, you'd have to copy them to a different folder since unsyncing a file removes it from your folder. But again, this feature might not be available on other services, and having to control all the services using selective sync from one single location is definitely better. Selective sync further lets you save plenty of storage space, letting you choose only files that you do want to be available on your hard drive.

After connecting a service, open up the folder and all the files within it will be listed. You can then go ahead and pick the files/folders you want to sync. If you think that you don't need a particular file/folder, you could right-click and unsync it. Unsyncing files frees up hard drive space, and is recommended for users who don't have much storage space available on their hard drives.

Download all your photos from Facebook and Instagram

Apart from syncing your files from various cloud storage services, odrive has an interesting feature – it lets you automatically download all your uploaded photos from your Facebook albums and

Instagram account. Though Facebook gives you the option of mailing an archive of all your photos, the advantage here is that you can select which album you want to download. This is a great feature since most of us have hundreds of photos uploaded on the social network. All you need to do is connect your Facebook account and head over to the Facebook folder on your local drive where you'll see all your albums listed as folders. Right-click to select which ones you want to sync. All your photos would be sorted automatically by year, so you won't have a hard time searching for your photos.



Name	Date modified	Type
Box	1/22/2015 12:41 PM	ODRIVELINK File
Dropbox	1/22/2015 12:41 PM	ODRIVELINK File
Facebook	1/22/2015 12:41 PM	ODRIVELINK File
Gmail	1/22/2015 12:41 PM	ODRIVELINK File
Google Drive	1/22/2015 12:41 PM	ODRIVELINK File
Instagram	1/22/2015 5:08 PM	CLOUDFX File
Microsoft OneDrive	1/22/2015 12:41 PM	ODRIVELINK File
odrive File Server	1/22/2015 12:41 PM	ODRIVELINK File
odrive User Guide	9/11/2014 6:10 AM	Foxit Reader PDF ...
Oxygen Cloud	1/22/2015 12:41 PM	ODRIVELINK File

Sync your services and files

odrive also lets you download all the pictures you've uploaded to Instagram. Natively, Instagram doesn't give you any option to download your pictures but there are third-party apps that let you do that. odrive, however, not only downloads your pictures but also the pictures you've liked using the social account. Another sweet feature included for Instagram lets you download photos with a certain hashtag. For example, if you want to download photos hashtagged #Cat uploaded to Instagram, you can select the 'Add Hashtag Folder' by right-clicking on the Instagram folder. This feature becomes really useful for brands who create hashtags specifically for an event or promotion, and want to download all the photos uploaded with that hashtag.

Retrieve your Gmail attachments


Say you don't want to go through the pain of searching for an attachment someone sent you on Gmail, is there an easier way? odrive saves you from the ordeal of scavenging through the endless threads of

mail by downloading all the attachments sent to you. Once you connect your Gmail account, your Gmail folder will have a 'Labels' and 'Senders' folder. Labels will sync all attachments sent to you under the Labels that you might have created in your Gmail account. The Senders folder will have folders of people (email addresses) that have sent you attachments. An additional feature here is when you're viewing your attachment, you could view the exact email in which the attachment was sent by right-clicking on the file and selecting 'Open in Gmail'. Another interesting feature to help you be organised.

Possible improvements

Being in beta stage, the service will have many improvements later. On trying out the service, we came across a few kinks that should be ironed out. Here's hoping that odrive is listening. For example, after your Facebook albums or Instagram

photos are synced, unsynced photos don't have thumbnails. Thumbnails are obviously generated when the file is present in your hard drive, but having a preview available would be great so that we could actually look at what we're syncing. Integrating Google+ photos would again be a great feature if all photos clicked from our phone's camera were available to be synced to our hard drive. There's a walkthrough to change the default location of your odrive folder, but isn't recommended and we'd appreciate if this feature was included in the next update.

After using odrive for a couple of weeks, we've found the service to be quite helpful. For those who can't afford paid cloud services storage, this certainly seems like a life saver. If you can afford the cost, given that cloud storage fees have dropped drastically recently, subscribing to a premium service would further expand the storage size one can have on odrive. Keeping your cloud storage organised and efficient is one thing odrive does well and you should definitely give it a whirl. 



Guide to discover

Overhaul and improve your Twitter feed using Twitter's "Discover" tab to better suite your taste. Learn how: <http://bit.ly/1JsJi2b>



Lovejoy gone

Say Sayonara to Comet Lovejoy as it won't be visible to people from earth for the next 8,000 years. <http://dgit.in/LoveIsGone>

DIY: Rejuvenate your XBox 360 Controller

Is your old XBox 360 controller not as snappy as it used to be? Are the buttons sticky and unresponsive at times? Have the analog sticks lost their grip that make you slip during a critical manoeuvre in a game? Follow this guide to breathe fresh life into your controller.

Siddhant Sharma
readersletters@digit.in

Left, Right, A, X, Up, Down...Ohh! Combo Failed! Don't you hate it when something like this happens when you're about to beat a buddy in Mortal Kombat with a fatality? Or in FIFA when you've tackled a player, took possession of the ball, dribbled past a midfielder, defender one, defender two, tried to set up a trick shot for the goal but the trick went wrong because of an unresponsive button causing you to shoot the ball way wide of goal? If yes, well it's time for you to take a long and hard look at your good old XBox 360 controller and fix it so that you can beat that wide grin off your smug friends face. We say fix it yourself because if it's out of warranty, you don't have much choice anyway do you? Apart from buying a new one or buying the new XBox One controller which if you don't already know, isn't quite budget friendly.

Using this guide, you'll be able to open, clean, fix and make your controller work almost as good as new. Regardless of whether you own a wired or a wireless XBox 360 controller, this workshop will work for both of them. So let's get cracking.

What we'll need

- XBox 360 controller (wired or wireless any);
- T8 Torx Screwdriver;
- Tissues or a soft cloth;
- Any non-conductive cleaning fluid or rubbing alcohol;



- Cotton ear buds;
- Baking soda.

Starting up

Make sure that you are in a well lit area and place the controller on a flat surface like a desk or table and flip it so that it lies on its front. Now notice the number of spots for screws. You'll be able to spot



six screw areas easily but there is one more screw that is hidden apart from the other six. If you have a wired controller, you should see a sticker strip of barcode at the back of the controller. Remove this sticker to expose the screw location. As for wireless controllers, you'll have to open the battery compartment at the back of the

controller, remove the battery and then you'll see the sticker strip that you'll need to peel off to reveal the screw beneath.

Unscrew and open

Since you've spotted the seven screws, you'll see that they are 9.3 mm T8 Security Torx screws that help keep the controller together. Use a T8 Torx screwdriver to unscrew and remove all the seven screws. Keep the screws at a safe place so that you don't lose any. Once that is done, in order to open the controller, you'll have to pry it a bit from the seam between the front and the rear part of the controllers casing. Start prying from the bottom part of the controller and you'll see that the casing opens up from near the 2.5mm headphone jack at the bottom of the controller. Now slowly lift



the casing grasping the back part of the controller (from the battery compartment side in wireless controllers) until it separates from the front casing completely.

Remove Vibration Motors

Set aside the back casing of the controller and rest the front part of the



Gadgets for you

If you're still in your 20's, take a look at this list of gadgets every 20 something worth his/her salt should own. http://dgit.in/20_OrBust



Endaga CCN1

If cell signal drops are common in your area, this new device is the solution. It makes dead zones alive. http://dgit.in/Endaga_1

DIY



controller casing which has the PCB (Printed Circuit Board) exposed along with the vibration motors on a flat surface. If you're working on a wired controller, make sure that you don't jerk or pull on the controllers power cable while doing so. Now, you'll notice that there are two vibration motors connected to the PCB on both sides, the left and the right. In order to disconnect and remove these vibration motors, you'll have to hold down the PCB firmly with one hand and unplug or disconnect the vibration motors' cables from it. After disconnecting the cables, you can lift both the motors out of the front case and keep them away.

Removing PCB and buttons

Grip the PCB from the headphone jack area and the top power cable area and lift it. Doing this would remove it from the front casing. Set the PCB aside along with its connected power cable and



move on to the buttons. You'll notice that there are two distinct rubber pads above the buttons. These pads are the ones that lie in between the PCB and the plastic buttons that we press while playing. Remove these rubber pads and set them aside as well. Now you'll be greeted by the backside of the buttons. Lift and

remove all of these buttons and set them aside. Note that the centre Xbox button has two parts - the button and a plastic ring around it; Remove both the pieces. To get everything out of the way for thorough cleaning, remove the LB and RB shoulder button plastic arch by lifting as well. You should also remove the analog sticks by gently pulling them from their places on the PCB. Doing so would give you enough space to clean the PCB properly.

Cleaning

If your controller is fairly old and you've used it a lot or even kept it sitting out anywhere, you'll see that all the parts inside the controller are covered in dust while the places around the buttons and the rubber pads are covered in gunk. Dust and gunk are the main reasons why your precious controller isn't working like it's supposed to and you'll need to wipe clean all the parts to fix it. Start by cleaning the plastic casings first using damp tissues or a soft cloth. We used the Antec Advanced cleaning fluid to spray on the plastic casings and tissues to wipe and clean them. You can use rubbing alcohol or water as well, but use water only for the plastic parts and keep it away from the PCB or other parts like the vibration motors. If you have a can of compressed air, using it to clean the PCB works really well but if



don't have it, then take tissues to wipe off the dust on the PCB. If your analog sticks are unresponsive at times, or they stick to one side while playing and not get back to their default centre position, you should check for dust inside the analog switches. Use an ear bud dabbed in rubbing alcohol to reach inside the


analog switch and clean it. Keep rotating the analog stick and shake the PCB a little bit to remove any dust that may have settled inside the switch. Move on to cleaning the rubber pads and the buttons next. You can use a damp soft cloth or tissues for the same as well. The main area you should focus on while cleaning the buttons is around and below them where they touch the rubber pads as these parts are mostly covered in gunk.

Cleaning battery terminals

If you've not used your wireless Xbox 360 controller for a long time and forgot to remove its batteries all this while, chances are that you'll find the batteries leaking and corroding the terminals. If that is indeed the case then you should clean the terminals and dispose off the batteries safely. Use a small amount of baking soda, add water to it to make a paste and then using a cloth and your hands, apply this paste to the battery terminal springs that are soldered on the PCB. Do it carefully so that you don't damage the pins or the PCB while doing so. You'll see the paste reacting with the corrosion on the terminals. Use a tissue to gently scrape off the paste after a couple of minutes of applying it to the terminals. Your battery terminals should now be free of corrosion.

Grips for Analog sticks

It's possible for the grips on your controller's analog sticks to become worn out or broken in places over time. You can head over to ebay.in to buy rubber grips for the analog sticks which are available in different colours for as low as ₹100 as seen here: <http://goo.gl/rdMTJA>. If the analog sticks themselves are broken, you can buy them too but they'll be available upwards of ₹150 a pop.

After you've cleaned all the parts of the controller, go in the reverse order that you did above for opening it and you'll be able to assemble it back again. Just make sure that the buttons are at their right place and aligned with the rubber pads before you shut the controller casing and screw it back on. Now try out your renewed controller and play on. 



HoloLens Explained

Learn how Microsoft's new innovative headset works and why it is different from what's currently available. <http://dgit.in/HoloExp>



Airline site hacked

Lizard Squad has hacked the website of Malaysian Airlines and posted a sentence saying: "404-Plane not found" <http://dgit.in/MalHacked>

A better way to stream music online

There are many online music streaming services to choose from, but how do you get the best out of them? We look into a few of the popular ones available in India which learn your music taste and tempt you to explore further.

Abhijit Dey

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So you love listening to music and spend a considerable amount of time in a day discovering new music. Lately, with so many services available to stream music online, there is a confusion about which one to pick. Also, more people are subscribing to these services, rather than buying songs. Though piracy is still prevalent here, people who truly want to explore more are subscribing for them.

Among the many services to choose from, there are a few decent ones that give you enough features to discover the kind of music you like, along with an easy-to-use interface. Some fair good in the music discovery part while some win with user interface design. Let's have a look into the most popular and feature rich ones.

Grooveshark

The first choice when it comes online music streaming is Grooveshark. Though their mobile app isn't that good, the web application makes up for it. It lets you not only stream songs, but also upload songs and then let others also stream it. The library is so huge that you will come across almost every obscure song or artist you're trying to look for. The home page gives you a long list of music recommendations from previously heard music, and list of popular songs and new releases on Grooveshark. One problem with it is that since users can upload songs, there are multiple title tracks available for the same song. But the search filter lists the correct ones at the top, so you're sorted.

You can share songs within the service to your friends very easily and users can create their own playlists and broadcast it as a radio station, so that people with similar music tastes can stream them. The Live Broadcasts section is a great way to discover music on Grooveshark.

Link: <http://grooveshark.com/>



Rdio

Rdio makes it compulsory to create an account for streaming music. Depending on your listening history, you will find artist suggestions similar to your choices by further scrolling down, and also songs that you haven't heard using the service from artists you might have streamed. An exclusive and exciting feature that Rdio has is that it creates your own personalised FM station according to your favourites and streaming history. You can also create collaborative playlists, where others can modify them which is a quite useful feature. Music discovery is a wonderful experience on Rdio, listing sections for music that are trending, recently released, and recommendations from your streaming history. The Trending section gives you albums, stations, playlists and songs that are currently trending in your region (mostly country based). When you want to hit up

random playlists or stations, the Browse section is amazing and lists out music according to moods, celebrities and genre with more playlists. Rdio is integrated into Shazam and SoundHound, so that you can directly play the song that you discovered inside the app. Since Rdio is now officially available in India, you can



search for Bollywood and regional songs as well.

Link: <http://www.rdio.com/>

8tracks

8tracks has always been a great service for discovering music, though it may not be that good for streaming. There are a large number of playlists present on this service and the featured ones are truly amazing. As soon as you hit up the Explore tab, you will be able to search for songs from among 2 million playlists, and search songs under different tags. Though you might think that 8tracks lacks features as you spend more time discovering music on this service, you would learn that it is mostly intended for music discovery, a playlist sharing service if you will. Playlists have a unique feature that shows analytics too, but it's still in beta version. 8tracks forums is another place to discover great recom-



Universe timeline

The universe is really old and you can learn how we arrive at values deciding its timeline here: <http://dgit.in/UniTime>



Development plans

Head here to know how Bill Gates plans to help the developing world make profit from its sewage: <http://dgit.in/SewProfit>

Workshop

mendations. All in all, it's a great place to create your own playlist and share it among a million other users and connect to like-minded people.

Link: <http://8tracks.com/>

SoundCloud

SoundCloud is a great platform to discover songs from popular as well as aspiring independent artists who can upload songs and share their creations. This service has great tools for content discovery that covers numerous genres. You can follow users who upload songs, samples, podcasts and even radio shows, and they appear in your Streams tab. The Explore tab lets you browse through thousands of songs letting you filter them too. Currently it is a great service to follow your favourite podcasts, radio talk shows and DJs.

Link: <https://soundcloud.com/>

Guvera

When you hit up Guvera's web app, you are presented with featured playlists curated by them according to your region. There's a New Releases section which gives you a list of recent song releases, but we could only find album releases of local music artists. The #Play section lets you search for tags on artists, moods or genres, and adding your desired tags together for Guvera to cook up a common playlist from those tags. This gives you the power to discover music you like. One neat feature we liked is that you can search for songs straightaway by typing for the song or artist you're looking for without going to the search tab. But Guvera doesn't automatically collect your previously played songs to present you with recommendations and you have to manually search for songs. The #Play feature is therefore a better way to do it.

Link: <https://www.guvera.com>

Gaana

There are endless venues to browse for music on Gaana. The categorisation and listing of artists, albums, playlists under different languages is really impressive. This is hardly seen in other services hence it is currently the most popular

music streaming app in India for Bollywood music. We spent quite some time on Gaana and were disappointed that there was no section for music suggestions based on our streaming history. You have to go through either the playlists and stations curated by the Gaana team themselves or through the ones that are visible on the feed due to its popularity. So if you're looking for songs from particular artists or genres, especially Bollywood and regional ones (english songs library still being less), then you would love using Gaana. But you should know that it doesn't collect your listening history (though it gives you a list of the songs you have listened earlier) to curate and give you recommendations, which can be worked around using a scrobbler (discussed later).

Link: <http://gaana.com/>



Saavn

Saavn has a neat interface that opens up new song releases with tabs to switch to other languages. Browsing for music here is fine again for Bollywood and regional songs, and has less international songs in its library. You have different sections like featured playlists, new releases, weekly top 15, and song of the day. A very useful section called All Albums, lets you search for music albums alphabetically, and also albums from different languages. This feature isn't found in any of the services mentioned here. It also has an interesting Surprise Me section which throws random playlists at you created by Saavn and could be a good music discovery feature. Again, Saavn doesn't tailor music recommendations for you, but does give you a couple of neat features to discover music you like.

Link: <http://www.saavn.com/>


Wynk

Currently available for only Android and iOS devices, Wynk gives you an easy interface compared to the other services to browse through its library of international and regional songs. It has many sections on its home page to discover music under different languages, new releases, popular in Saavn, top albums, top playlists, moods and popular artists. Every section opens up a number of playlists to choose from. It does have all the basic features essential for a music streaming app and it also creates a timeline of the music you have listened to or downloaded. The app has still a lot of catching up to do to offer some exclusive services from its competitors, so we would be keeping an eye out for Wynk (did you see what we did there?).

Link: <http://get.wynk.in/>



Scrobbling for better recommendations

You might not always be able to search for that rare song on every streaming service you stumbled upon somewhere else. So, how do you get all the songs that you listen to on multiple services, multiple devices and also on different software? The best solution is to create an account on Last.fm, and enable scrobbling on other services that you stream songs on. Scrobbling is nothing but collecting and sending the played songs to a website (Last.fm in this case) while trying to improve your recommendations by tailoring them for you. There are many ways that you could accomplish this including downloading their desktop app available for Windows, Mac and Linux. Or an easier way could be adding a browser extension that would be able to catch literally every song you play through your browser, no matter which website you're playing it from. 



Ambitious Snapchat

As an offshoot of the Sony hack, emails from a Snapchat's board member have revealed the company's future ambitions: <http://dgit.in/Snambition>



Digital health coach

A new app named "Rise" now puts a real-life digital personal health coach right in your pocket that tells you what to do. <http://dgit.in/RiseApp>

Windows 10: The resurrection

Microsoft recently revealed many new features of its upcoming OS in detail and some of them are really promising. Let's check them out.

Team Digit

readersletters@dgit.in

For the first time in its history, Microsoft is giving its latest operating system away for free! Not only that, the OS will now come bundled with a whole bunch of new features that will, hopefully, lay Windows 7 to rest.

It's FREE!

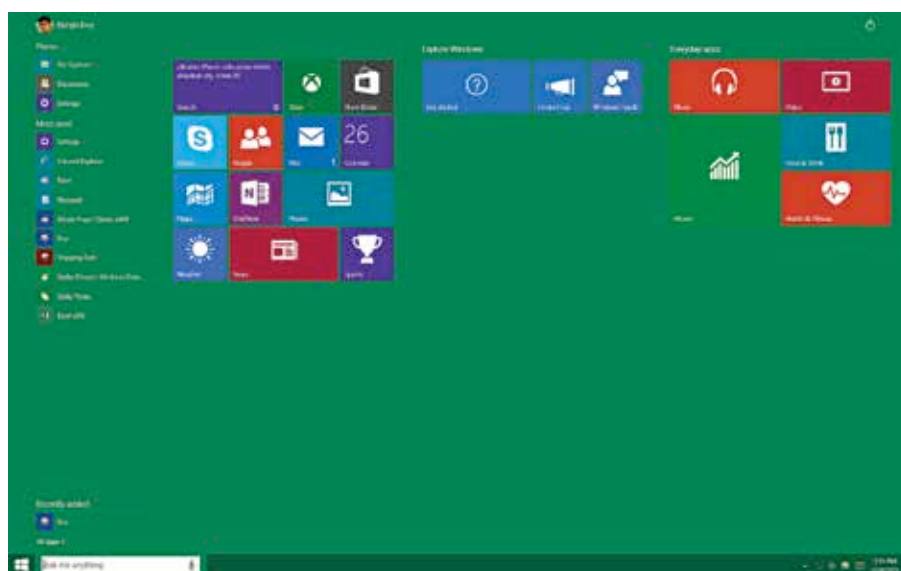
The company gathered a bunch of journalists in its Redmond headquarters, and live streamed the event to announce the next iteration of the Windows Operating System. One of the highlights of the presentation was the fact that Microsoft has finally made Windows free for existing users, at least to a certain extent.

Windows 10 will be free for Windows 7 and Windows 8.x users for the first year, which means you can upgrade for free in the first year of the OS' lifetime and enjoy free upgrades thereon. However, if you happen to upgrade in the second year or after, you will have to pay for it. Keep in mind that there's no subscription in play here, just a free upgrade during the first year of launch.

Now let's look at the changes that have been implemented since the Technical Preview last year.

Welcome to Windows 10

The Start Menu is no longer a full screen affair, but you still have the option to make it so if you want to. There's also an Action Center on the right side of the screen, which will display quick settings like in Windows Phone 8.1 and other tools to make usage simpler and faster.



Windows 10's new Start Menu

Most importantly though, Microsoft's voice assistant Cortana is coming to the desktop with the Windows 10 OS. She will take over a lot of the search functions on the PC, with her own little place right next to the Start menu.

Courting Cortana

Microsoft has announced rolling out its personal digital assistant, Cortana, to PC and tablet for the first time with Windows 10. The assistant will be available next to the Start button in the taskbar for an easier access.

At its Windows 10 event, Microsoft also briefly detailed Cortana for desktop. Along with regular voice commands, the virtual assistant allows users to search files on local storage hard drives and OneDrive. Users can also search for pictures using dates and other filters. Cortana can search for apps on the local

device as well as in Windows Store. It can be used for composing emails, Bing searches or playing music. She also lets you customise information, helping suggestions in future to be more accurate.

The assistant works across platforms, allowing users to pull information on PC and later access it on mobile devices. Cortana will also be integrated with Microsoft's new Project Spartan Browser.

"Cortana learns your preferences to provide relevant recommendations, fast access to information, and important reminders. Interaction is natural and easy via talking or typing, with advanced features to control Cortana for more trustworthiness and transparency," explains Microsoft on its blog.

Cortana is certainly an important feature of Windows 10, and perhaps will change the way users have been interacting with computers so far. However, the



Facebook ads explained

Ever wondered how Facebook tailors its ads for you and how they show your interest to advertisers? Read this to know how: http://dgit.in/FBAds_Exp



Flexible fibre implants

A new flexible fibre implant from MIT can not only treat patients with drug and light stimulation, but measure responses also. <http://dgit.in/FlexFibre>

Feature

efficiency of Cortana on desktop remains to be seen. That said, Cortana with Windows 10 is arguably a better integration model than rivals Google Now and Apple's Siri.

Universal Apps

Windows 10 is less about one type of device and more about all devices and screen sizes, so much so that Microsoft announced an 84-inch Surface Hub at the event. More on that later though, universal apps is something that will be exciting for developers and useful for consumers.

With Windows 10, it's easier for developers to build apps for Windows. Microsoft showed off some of its own apps working on PC, phones and tablets, where the core of the app remained the same. The idea is that it's easier to port apps from PC to phones to tablets and also the Xbox now.

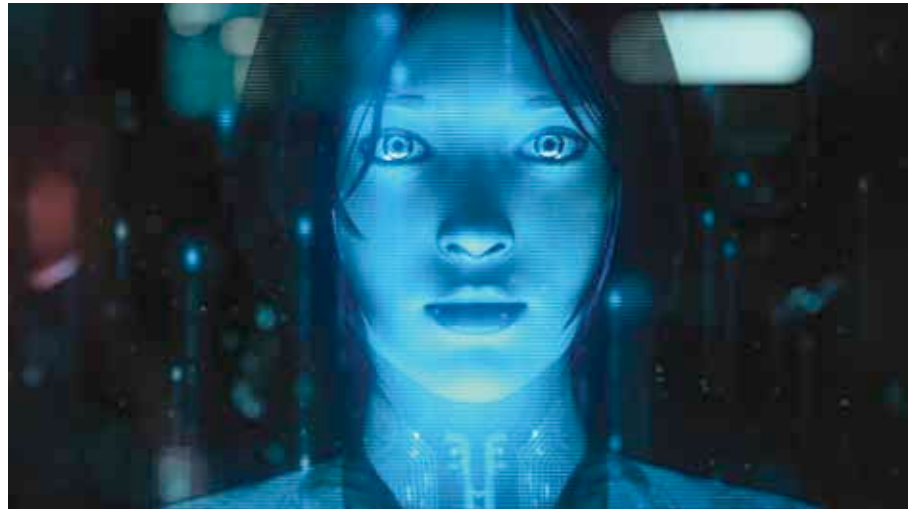
Xbox joins the Master Race. Well, sort of...

This is still a grey area, in the sense that we don't quite know whether we like it or not. What's evident is that the company has big plans for Xbox, what's not clear is what exactly those plans are. The company has added an Xbox app to Windows 10 on the PC and elsewhere, which will allow you to stream your Xbox games to other machines. You still have to own an Xbox though. The concept is basically the same as Steam in-home streaming, just in reverse.

The Xbox app allows gamers to take 30 second clips from their games and share them with others, the same can also be done with game stats etc. In addition, Microsoft is adding the DirectX 12 API to Windows 10, which according to the company, adds 50 percent performance improvement for games over DirectX 11.



Xbox One console set



Windows 10's Cortana isn't going to be this cool. But it's a start.



For SPARTA!

Holo? Halo? Watcha talkin' about?

Get ready to imagine your own Star Wars universe. Microsoft's HoloLens is the most interesting thing that the company has done till date. It's actually one of three technologies which together bring you 3D computing. These include Windows Holographic, that will be in all subsequent builds of Windows 10, the Holo Studio app and the HoloLens headset.

HoloLens has its own CPU and GPU inside and is completely wireless. It also has a Holographic Processing Unit. The Holo Studio app allows users to create their own holograms, while the Windows Holographic platform is what is behind all of this augmented reality tech.

Augmented reality itself may not be something new, but its integration into an operating system gives Windows something that neither Mac nor Chrome OS have. Microsoft may very well be accurate in describing HoloLens as the most advanced holographic computer

ever. At least, that's what their video seems to suggest.

This is SPARTA!

The Spartan Browser has been leaked enough times by now and a lot of the leaks turned out to be true. The browser will first come to phones only, followed by other devices. It is a lightweight and good looking browser that will hopefully replace Internet Explorer someday.

The browser has a Pocket-like feature, where you can save webpages for reading later. In addition, you can use OneNote to save specific parts of a website for later reference.

Shutting down

It won't be a stretch to say that Microsoft made Windows cool again, but Windows 10 is yet to come to users. A fresh build of the new OS will be available for those who registered for the Windows Insider program. But the full consumer version will take more time to arrive and will probably land in October this year.



VR in Firefox

The recent main build of Firefox includes support for WebVR, so Oculus Rift owners can have fun with it. <http://digit.in/VRFox>



HTC One M9

Leaked images of the HTC One M9 (Hima) have been spotted in the wild with a different looking camera at the back. http://digit.in/HTC_M9

Of naughty jumping cursors and disk cloning issues....

Having trouble cloning drives? Pogo-stick wielding cursors playing havoc with your typing experience on a laptop? Team Digit comes to the rescue and helps you fix everything

Wanted: Boot Manager

I have two PCs at home, one for gaming and the other for business. The latter was running Windows 7 but it was getting slower and slower by the day and so I decided to use an old spare 256GB SSD in it. I used a cloning utility to transfer my Windows installation and everything from the HDD to the SSD exactly the way it was. It worked brilliantly and I was able to experience the performance difference provided by the SSD. However, when I powered down the system and started it back again the other day, I was greeted with the message "BOOTMGR is missing". I tried all the fixes that I knew of and still couldn't get it working. I cloned the HDD contents to the SSD again to check whether something went wrong earlier but ended with the same issue. Please say what I'm doing wrong during the cloning process and help me rectify the error.

– Tarun Parihar

According to what you've described, it looks like Windows is looking for the Master Boot Record (MBR) somewhere else instead of the place that it's currently in during boot-up. If you've still left the HDD connected to the system while it's booting from the PC, chances are it's still trying to boot from the HDD and that's why it fails to boot. Disconnect the HDD if that's the case and check again. However, the way to solve this issue is to rewrite the MBR on the SSD and you'll be set. Although the next time you try cloning the HDD content to a SSD, visit this link: http://digit.in/Easy_BCD to download and install EasyBCD which is a utility that allows you to rewrite MBR of Windows 7. Once you've installed EasyBCD, run it and select "BCD Deployment" from the column on the left. In MBR configura-

tion options, select "Install Windows 7 bootloader to MBR" > Click "Write MBR" button. Once the write is completed, go to view settings to check and make sure it worked properly. Another easy way to fix this issue is to restore MBR using repair from your Windows installation disc.

Jumping Cursor

Hi Digit SOS Team,
Thanks for a well organized magazine. The teething problem that I've been having with my laptop is that whenever I type text, the cursor abruptly hops over randomly here and there on the page that I'm working on. This results in some meaningless words if I skip to double check the text that I've composed/typed. How should I go about solving this problem?

My system is as follows:

- Laptop: ASUS X42J;
- Memory: 8GB (2x4GB);
- Processor: Intel Premium P6200@2.13GHz

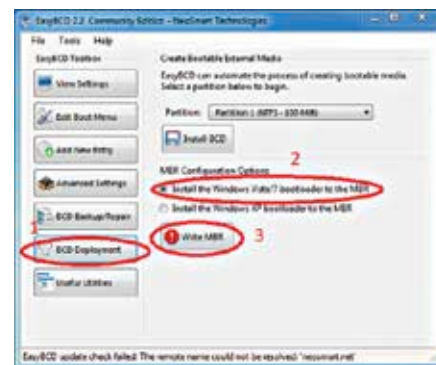
I'll definitely appreciate it if you can provide me a reply to get rid of this menace.

Thank you.

– Kumar Muthu

Hi Kumar,
This has been a very common and frustrating issue with many laptops and we've heard plenty of complaints about the same. To fix this issue, you can try a couple of

things. First, go to Start > Control Panel > Hardware > Mouse. Click on Pointer Options tab and then locate and uncheck the "Hide pointer while typing" box. Click Apply and OK. Alternatively, you can download and installed a freeware christened "TouchFreeze" which has been suggested as a fix by many victims of this



Follow the steps according to the numbering on this image to use EasyBCD.

issue. TouchFreeze prevents cursor jumping by disabling the touchpad while you're typing and is quite handy. Some laptops have bundled touchpad drivers and software that also provide a similar option to TouchFreeze and you should check for that as well. Although with Windows 8 and 8.1, Microsoft has provided a built-in option to prevent accidental movement of the cursor. You just have to navigate to Settings in the charms bar > Change PC Settings > PC and Devices > Mouse and touchpad. Over here, you simply have to change the value of the: "To help prevent the cursor from accidentally moving while you type, change the delay before clicks work" option. Start by changing its value to "No delay (always on)". In case the above change doesn't work for you, tweak the value to "Long Delay" and you'll be set. 4



LIMIT YOUR ONLINE TIME

Gah! look at the time, is it 02:00 am already? Ever had to exclaim and ask this question when you were busy with something that you're not supposed to waste time on? We know, we have. The Internet is both – man's greatest creation as well as the most disruptive. It's very easy to get lost in the countless pages online while you're working and all it takes to reach there is just a simple distraction that can be in the form of a harmless looking link which ends up being fatally harmful to your time. We're sure we all get some or the other page recommended by our peers that we should visit. This page, be it an article on a blog or a GIF of a cat playing a piano on Reddit can act as a trigger for time wasting. Although it's okay to have fun once in a while, investment of long periods of time on unrelated content can work like a dagger to stab your productivity and this is why you need something that can limit this pursuit of unwanted time wastage and we are here to help. Let's take a look at browser extensions, software or apps and how to configure them to best restrict you from wasting time online.

StayFocusd (Browser Extension)

Over time, StayFocusd has been one of the most recommended extensions for Chrome to limit time wastage and rightly so. It has a wealth of features at its disposal and is highly configurable depending on a user's usage scenario. Download and install StayFocusd from here: http://dgit.in/Stay_Focusd to get started.

Adding pages to blocked list

First you'll need to identify which websites you visit and



Limit your online time.....05

Tor07

{ Tips & Tricks has its own page numbers, and does not follow the rest of the magazine's page numbers. This is done to ensure that you can cut out and save T&T in a separate folder for later reference. }

waste time on the most. Social networks like Facebook and Twitter are the obvious guesses. We'll be using 9GAG and Reddit as examples here. But it all depends on which websites you know waste your time the most online. To flag an unproductive site using StayFocusd and add it to its list, navigate to the desired page and click on the blue StayFocusd button on the toolbar. A drop-down will appear with an option to block the whole website, clicking which will add it to the list. Keep clicking on the StayFocusd button to add more time wasting websites to its controlled list.

Limiting time and adding active days or hours

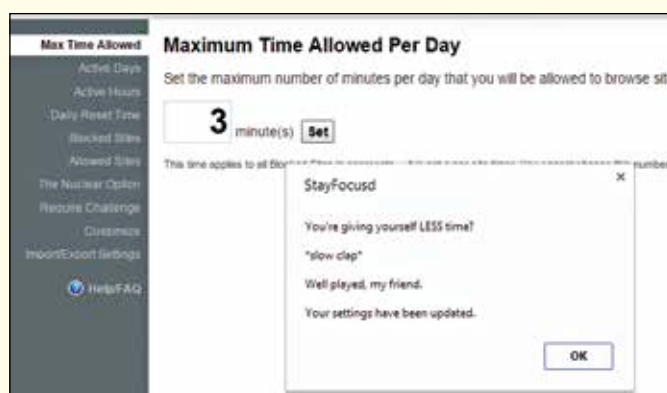
StayFocusd is configured to allow you 10 minutes to browse the sites in the blocked list but you can use the extension settings to increase or decrease the maximum allotted time. Click on StayFocusd button > Settings > Max Time allowed to set the maximum number of minutes per day that you'll be allowed to browse the website in your blocked list. Keep in mind that

the time limit you set will be universal for all the sites in the list and not for only a selected site. So if 10 minutes is more than enough to mindlessly pour on 9GAG in a day, then that's it and set it so. Also once you've set this number and the browsing time for that particular website has expired, you won't be able

during your happy hours, you have the option to set time periods during the day when StayFocusd should be active. So if the time from morning to the evening around 4:00 is your working time during the weekdays, you can set StayFocusd to be active only until 4:00pm on weekdays. To set active hours and days, follow this: Right-click on StayFocusd > Options > Active Days and select the days in the week that you want StayFocusd to be active say Monday to Friday. Follow the same path above and select Active Hours from the list and adjust the clock using the start and end timers given on the settings page to set active hours per day.

Make disabling StayFocusd a challenge

If you're one of those persons who isn't level headed when it comes to wasting time online, you'll definitely try to disable StayFocusd in one way or another. The developers had a well thought out idea for users like you and that is why once



Don't be surprised if it gives you some lip.

to make changes to the allotted time for that day.

To check how much time you have left to browse, click on the StayFocusd button and you'll see a timer running displaying the remaining browsing time. We don't work throughout the day and if you don't want StayFocusd playing your nanny

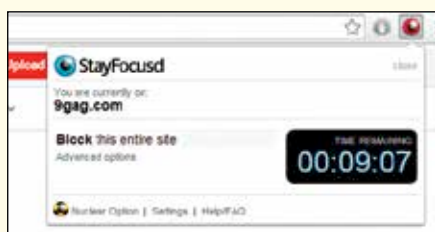
you've passed the allotted time frame for the day, you cannot remove a flagged site from its list or change the allocated time. To make it more difficult, you can enable challenge mode which would require you to complete a challenge before you can access any settings in StayFocusd. Enable it through



Right-clicking on StayFocusd > Options > Require Challenge. Doing this would require you to give a typing test with 100% accuracy to unlock the ability to change the settings.

Going Nuclear

Every app and software should have a nuclear option which is the absolute crazy level of strictness that is possible. Right-click on StayFocusd



So good that you'll hate it

> Options > The Nuclear Option to view and change options for blocking websites irrespective of whether you have set active days and hours. Note that you won't be able to cancel it once it's activated.

Customising notifications and syncing

You can select the number of times you want to be prompted about the time remaining for your session. Right-click on StayFocusd > Options > Customize > Scroll down to Notifications menu. Here you can set up to five notifications along with the time delay between each of them. If you have Chrome Sync on, StayFocusd will sync by default between all your devices via Chrome Sync. But if you don't want your home PC blocking websites like your work PC, you can disable Chrome Sync for StayFocusd. Navigate to the the options through Right-clicking on StayFocusd > Options > Customize > Sync. Here, check the "Disable Sync" checkbox to disable Chrome Sync for StayFocusd.

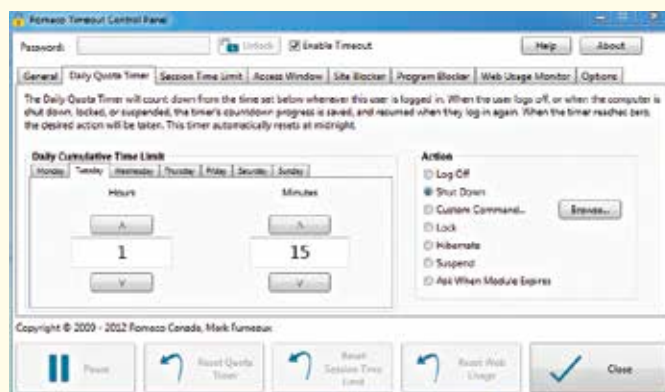
Romaco Timeout (PC free-ware)

This is one of the most recommended free-ware available that allows a host of overall time limiting control for the PC and works as an excellent parental control software. Although development for Romaco Timeout has been stopped now, the latest build is very stable and works with all the flavours of

Windows currently available. Head over here: <http://dgit.in/RomTime> to download and install Romaco Timeout for all users of a PC.

Setting limits

Fire up Romaco Timeout and the first thing that you'll see that it asks you to enter and set a password even before you're allowed to change settings. Setting a password helps in preventing kids accessing and meddling with the settings. Select the "Enable Timeout" checkbox to start timeout countdown. Now you can move on to set a daily cumulative time limit and set individual values for each day of the week along with a certain action to be performed after the time expires. So if you want to spare only one hour fifteen minutes on Tuesday, then set the hours and minutes accordingly for Tuesday and from the Action box on the right, select the action after



Romaco Timeout has a simplistic interface

timeout like Hibernate, log off or even a custom command. If you want a per-session based time limit, Open Romaco Timeout > Enter Password > Session Time Limit and set hours, minutes and action to be performed.

Blocking

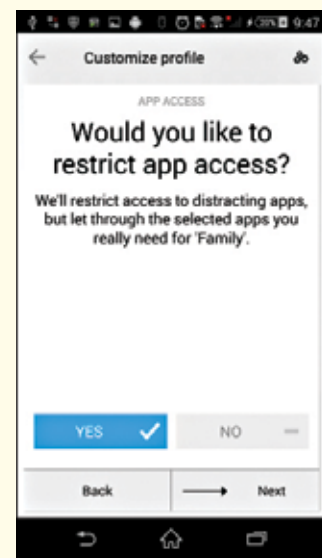
As the name suggests, you can use this feature to completely block time wasting websites. To add websites to the list, Open Romaco Timeout > Enter Password > Site Blocker. Here, add the websites that waste your time the most and block them for good. The immediate next option on this software provides program blocking functions. Browse and add certain time wasting programs like games and save your time.

Offtime (for Android)

Crushing candies, killing fictional cartoon pigs, reading funny strips and over socialising on social media are some of the things all of us waste time on our smart devices and it's only logical that this area of our life be controlled properly. This is where apps like Offtime come into picture. Download and install it from the Play Store through here: http://dgit.in/Off_Time.

Selecting or creating profiles

Offtime works its magic using profiles. If you have a deadline



Offtime Restrict

coming up and you want to focus on your work, select the default "Focused Work" profile and select what you like to block from among notifications, SMS, calls and even apps. Selecting the browser or even the 9Gag app for example and adding it to the Offtime profile list would let it block unwanted stuff to pop up or prevent you from using blocked apps. Apart from the multiple profiles available, you can create your own profile and tailor the app to work according to your usage scenario.

Track or check scores

If you've actually used Offtime well and blocked unwanted apps and saved time, Offtime will provide you a score that will tell you about your smartphone usage. The less you check your phone when a profile is active, the more your score will be. You can check the score by opening Offtime app > Swipe right from the left edge to get to the menu > Select My Insights > Score. This adds a bit of a gamification aspect to the app and would engage some users to follow the limits set by the app.

Extensions, apps and software would take you only so far

after all, what matters is exercising self control on your part.

TOR

Tor is a network of relays, run and maintained by volunteers, that works to mask your browsing data from snoopers. You access the Tor network via the Tor browser bundle or, if you know what you're doing, via the Tor network directly via your choice of browser. The advantage of Tor, when compared to encryption protocols and HTTPS, is that the Tor network not only encrypts the data that you're sending, it also does its very best to obscure the source and destination of that data.



Essentially, anyone that tries to intercept Tor network data will just see a random assortment of data just hurtling around with no apparent rhyme or reason. With no way to isolate data sets and determine the source or destination, it's almost impossible to figure out what's going on. You can download and install Tor at <http://dggit.in/15vXLeg>

Maintaining your anonymity

Tor's USP is anonymizing all your web traffic, but it only works if you're sensible about what you're doing online and a follow a few simple guidelines.

Use Tor as your default browser when you're browsing anonymously. It's been specifically configured to ensure anonymity and disables all plug-ins and other extensions that might in any way disclose identifiable information. These plug-ins include Adobe Flash and Java plug-ins and also scripts on websites.

Don't use Google. If you really want to keep your activities anonymous, avoid using Google and all its services when on the Tor network. This is because Google keeps detailed logs of any interactions with their services, no matter how seemingly insignificant. The Tor browser comes configured with a Tor "Start Page" that is designed to give you Google's search engine at your disposal, but with steps taken to anonymize all data traffic. You'll be able to search the web, but your search logs will not be traced.

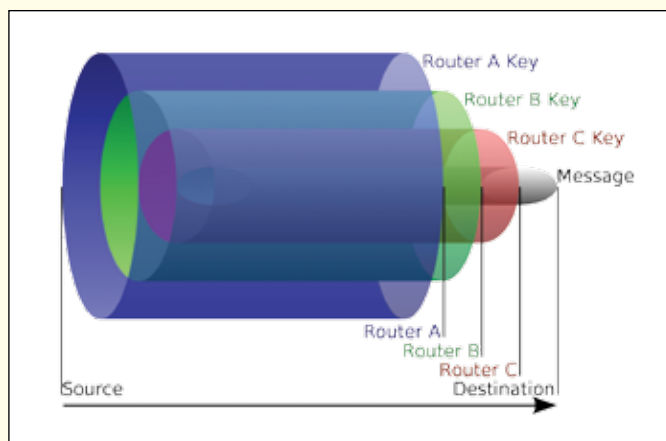
Bookmarks will always be stored on your PC, so bookmark sites with caution. There's no point in meticulously maintain anonymity online, while at the same time bookmarking a log of your activities for posterity.

By default, Tor works like Chrome's Incognito mode in that it will delete your browsing history on exiting the browser, unless specified otherwise. Note that your history will be maintained for the browsing session that is active, so accidentally leaving an active session on your PC will mean that your history will be open to examination (for that session).

We'll be explaining Tor exit nodes further down this article,



but we would like to point out right now that while Tor's network structure will by default keep you anonymous as far as possible, the sanctity of your data is dependent on the person that is running the Tor exit node or relay that you used. The bottom



A brief depiction of how TOR works with your data

line is that while it might be almost impossible to trace your location directly, it might still be possible for people to decipher your data packets and, if you've been incautious, identify your PC via those data packets.

Files, including .doc and .pdf files, are best not opened or downloaded when you're aiming for anonymity. There is a chance, however slight, that such files might disclose personally identifiable information and Tor will warn you of such potential security risks.

If you're using Tor to achieve anonymity, logging into a website via a known id is just silly and completely defeats the purpose. If you're using the same username that you use in facebook, or login with your gmail id, you're essentially nullifying all the work that you put in to achieve anonymity. Remember to separate your anonymous self from your normal online self.

Tor is not a 100% secure. Tor is a browser like any other and security vulnerabilities will be found and exploited. Do not get complacent in your perceived anonymity because in the end, Tor is just a tool for achieving anonymity and is only as good as the people that created it.

Sending secret messages

As you must be well aware by now, all conversations on pop-

ular chatting services like Facebook Messages, Google Hangouts, WhatsApp, etc., can and will be monitored. Tor provides a simple solution for those who seek anonymity in their conversations, and it's called TorChat (<http://dggit.in/1utkyhk>).

TorChat keeps all data local, except for the messages that you send which are in-turn only transmitted via the Tor network and not via third-party servers. You don't even have a username in TorChat, only a public key that you must share with the person you wish to chat with. The key helps in encrypting the data that's being sent, and since no names are exchanged, you're completely anonymous unless you choose to reveal your identity. Nobody can look for and find you either because you don't exist on a database of any sort.

Staying legit

Tor is a great tool for achieving anonymity, but it's also easily exploited by criminals, making all Tor users a target for agencies like the NSA.



You could be skirting the law



Most Tor nodes aren't as sophisticated as the data centre pictured above

Simply looking for anonymizing tools like Tor will add you to an Internet watch-list, putting a greater spotlight on your activities (check out X-Keyscore, if you haven't already heard off it). Tempted as some of you might be, be warned, if you even attempt to perform any sort of illegal activity online, there is a high enough chance that you will be caught. The more illegal your attempt, the higher the chance.



Understanding Exit Nodes

When you connect to the Internet via Tor, your query is routed through the Tor network, but it also has to emerge from the Tor network to ultimately query the site you wanted. The point of exit is called an Exit Node and anybody can host one. Unfortunately, it's at these exit nodes that your privacy is at its most vulnerable because any data that passes through an exit node can be snooped on.

While all traffic in Tor relays is anonymous because it's quite literally encrypted and randomized, it's more cohesive at the exit node and snoopers know it.

Given Tor's structure and the fact that anyone can contribute their PC and its resources to the network, snoopers can also participate and setup their own exit nodes and relays, undermining the very thing that Tor stands for. Of course, the greater the number of exit nodes, the harder it'll be for snoopers to hijack data, which is why it's in



everyone's best interest to actually setup an exit node and relay yourself. This however, comes with a very big disclaimer (as you can see below).



Staying out of trouble

If you're running a Tor relay, you're relatively safe because it's almost impossible to figure out what's happening there. However, if you're hosting an exit relay, it's your IP that'll be traced back when authorities try to trace illegal activities to

a source. You're not responsible for the illegal traffic that passes through your network, since your device is a router of sorts, but until you can prove otherwise, you're likely to be in a tonne of trouble. This is an even bigger problem when you're in a country where the law enforcement agency even struggles to understand the difference between a PC and a monitor. Run an exit node with extreme caution and a full understanding of what you're letting yourself in for and the legal ramifications of your actions.

Suppose you do get into trouble, what then? Well, Tor will try to help you out, but don't count on it. The help they can provide will be more relevant to US law than Indian law so again, host with caution.

If you understand fully what you're doing, know that Tor is not illegal to run anywhere in the world. If you're accused of illegal activity for running a Tor Relay or node, here's a sample letter (<http://dgit.in/15JMqZ2>) that Tor prepared in response to DMCA notices. While the letter refers to U.S. Law, it'll give

you an idea of the kind of legal defense to aim for.



Accessing Hidden Services

To understand Tor's Hidden Services, you need to understand that Tor is like an Internet unto itself, like an office or college LAN network that's only accessible to those who're working or studying in said office or college, as applicable. Suppose you want to host a secure website and remain anonymous, you can't do that on the Internet. Also, Tor's security is weakest at the exit nodes. But what if you never had to exit the Tor network? What if all the data and information that you could want stayed within Tor?

Think of this as the deep web, an Internet within the Internet. A Hidden Service is effectively a web server (or any other type of server) that's running within the Tor network itself, maintaining complete anonymity for users and hosts alike. You can identify such services by the .onion web extension and as with TorChat, a Hidden Services web address will include the public key.

An in-depth explanation of the Hidden Services, including a list of publicly available services, can be found at <http://dgit.in/1xX51I5/>. You'll need access to the Tor network to access that site though.

How do you find other Hidden Services? By accessing Tor's own network search engine at <http://dgit.in/1yUeZaV>

Disclaimer: The deep web really is a dark and dangerous place and can be as bad, or worse, than your wildest imagination. It's a place that's haunted by pedophiles, drug peddlers, terror and other such ne'er do wells. This is not a place for children and even adults must approach the Deep Web with caution. Tor is a tool for anonymity, not illegal activity.

worldview

OUR PICK OF THE BEST TECH ARTICLES FROM AROUND THE GLOBE

(MUST READS)



ARA HEALTH 360

Google's been making waves since it pulled the covers off its latest project, Ara – a modular smartphone platform where components attached to a frame can be swapped and upgraded. Here's what the device would look like if you threw in sensors, ranging from breathalysers to CO₂ monitors

<http://dgit.in/arahealth>

RAINBOW SQUID

Octopuses are famous for being the masters of camouflage. Their distant relatives, squids also possess these abilities. While nobody really knows why or whether this is even true, a breakthrough has been made. Here's a flashing, flickering squid just for you

<http://dgit.in/camsquid>

MOOT RETIREMENT

Notoriety, thy name be Moot. Christopher Poole a.k.a. Moot, the founder of the controversial image board 4chan has announced his retirement. Rest assured, 4chan isn't in any trouble financially or otherwise

<http://dgit.in/mootout>

SATYA NADELLA VS. THE WORLD

The CEO of Microsoft is trying to steer the tech giant away from a reputation of no longer being innovative

<http://dgit.in/msft-nad>

[Polygon Corner]

LIFE IN JAPAN



The Japanese gaming industry has been struggling. While the rest of the world complains about its focus on mobile and portable platforms, things are looking up. A light emerges from this industry in the dumps. Here's an 18-part series on the Japanese Gaming industry.

<http://dgit.in/jpn18>



Evolution of Halo

Microsoft's most successful game franchise released a compilation named *Halo: The Master Chief Collection*. The name suggests that the collection features only the titles featuring the Chief. Here's an interactive timeline taking us through Halo's evolution

<http://dgit.in/haloevo>



Dhaka's Gaming Scene

One of the most densely populated cities, Dhaka is a city of extremes. Immigrant children from broken homes arrive at Dhaka's shores via boat everyday. While these children have fallen prey to an addiction, it's not the one you'd expect

<http://dgit.in/dhakagme>



The Damsel in Distress

Women have never been treated as equals since the dawn of time. But, despite the world steadily recognising this fact and making amends, games are still a little slow to catch up. Here's why games are better without a damsel to save

<http://dgit.in/gamegirls>

THE FATE OF WINDOWS PHONE

The Windows 10 announcement is doing a lot of things for a lot of people. The biggest announcement here is the fact that the operating system will be running across devices and platforms. Even games will work between the Xbox One and the PC. So what about WP?

<http://dgit.in/WPOut>

THE AGE OF PROGRESS

The greatest technological advancements happened between the 40s and the 70s, however, things have slowed down of late. The vision we had for the 21st century back in the 90s is nowhere even close to where we are. What happened to the progress? What stopped us from making it a reality?

<http://dgit.in/prog-halt>

MAKING APPS MANDATORY

BlackBerry's CEO, Carlos Chen believes that legislators should ensure that app developers make their apps available for BlackBerrys too. While it may sound a little crazy, when presented within context, you'll begin to see that he's actually making a fair point.

<http://dgit.in/bb-wut>

NASA+MS+MARS

While the world is still trying to catch its breath after watching Microsoft's fascinating HoloLens in action, announcements have followed that NASA will employ the augmented reality system in tandem with its Curiosity Rover to carry out experiments on the red planet from the comfort of earth.

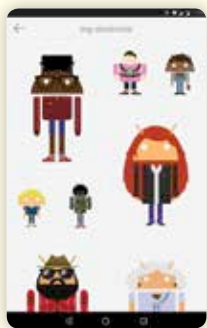
<http://dgit.in/nasalens>

10 neat Google apps you may not know of

Did you know about these apps in the Play Store that come directly from Google Inc. itself?

– By Team Digit

Google isn't only responsible for the Android OS and its marketplace. A whole bunch of apps in the Play Store come directly from Google Inc. itself. While you'll know about many of the more popular ones, there are others that are lesser known, but still useful. Here are the ones we picked out.

**Androidify**

This recreational app from Google can actually be a lot of fun. Its self-descriptive name reveals what this app does. You can create Android likenesses of you and your friends.

Get it here: <http://dgit.in/andrify>

Car Home

This app will likely become much more important by the end of the year. With Google's entry into automobiles with Android Auto, the long forgotten Car Home app may just come into the limelight. The app allows you to quickly access functions that you may need while driving.

Get it here: <http://dgit.in/crhme>

My Tracks

My Tracks is pretty similar to Google Fit app. It records your movements outside

and allows you to annotate and share them with friends.

Get it here: <http://dgit.in/mtrxs>

Google Gesture Search

Fan of gesture controls? This app allows you to search your Android device using gestures. You can't search the web, of course, but almost everything on your phone is searchable otherwise.

Get it here: <http://dgit.in/googest>

**Chrome Remote Desktop**

This productivity app can be useful for some. The Chrome Remote Desktop application allows you to access and run your PC from your Android-based

smartphone. Neat, isn't it?

Get it here: <http://dgit.in/remtdsktp>

My Maps

Perhaps overshadowed by the Google Maps app, My Maps is something that frequent travellers will enjoy. It allows you to create your own custom maps and use them anywhere.

Get it here: <http://dgit.in/getmehomemaps>

Snapseed

This photo editing tool from Google claims to be the only one that you'll need on your

phone. Try it and find out if the claims are real. Get it here: <http://bit.ly/15fxAoa>

Google Santa Tracker

The concept of tracking Santa isn't exactly new. The story goes that in 1955, the number of a Santa Tracking service was wrongly printed, with NORAD's number instead.



But, when people called the number, NORAD diligently told them the location of Saint Nick. In 2007, Google decided to go head-to-head with NORAD and the company has been doing it ever since.

YouTube Creator Studio

If you own a YouTube channel, then this app is made for you. The YouTube Creator Studio allows you to manage your channel from your phone, while on the move.

Google Authenticator

If you're worried about privacy, then you will love the two-step verification that Google Authenticator adds to your phone. It makes stealing data that much more difficult and adds another level of security to your device. **1**

BLOW WHISTLE, GO TO JAIL

President Obama has revised the sentence for any person attempting to leak government secrets. In a move reminiscent of *Taken*, Obama swears to find you and put you in jail. The sentence is 10 times more than any of those imposed by all the presidents before him combined.
<http://dgit.in/jail-time>

DRONE LICENSE

If you want to fly a drone in the US commercially, you're outta luck. It's illegal. But, things aren't the same when you travel 'across the pond'. The UK's aviation authority, the Civil Aviation Authority has made owning a drone simple
<http://dgit.in/Drone-on>

WINDOWS 10 AND THE ADOPTER

You can take a horse to water, but will he drink it? Despite killing off all support for Windows XP, reports state that anywhere between 20 and 28 percent still use it. With Windows giving away Windows 10 for free, many see it as a move that will help solidify its market share. Some don't
<http://dgit.in/opnwndw>

NO WIRES ATTACHED

What happens when you put a tech writer on a train and send him to a city four hours away? What happens if you tell him that he can turn the trip into a two-day vacation? What happens if you tell him that Day 1 should be entirely tech free? Follow this link and let Ars Technica blow your mind!
<http://dgit.in/wirfree>

7 weird and strange apps for your smartphone

Some apps on Google and Apple's app stores are plain strange or weird. Here's a list of seven such apps

– By Hardik Singh

Gold Detector

The developer describes this as an exact replica of the highly classified GDX-100-AUS gold detector. The original app on which this is based, however, detects gold nearby, while this one only looks like the detector and has no real purpose.

Download: <http://goo.gl/0vejlp>

**Pointless Button**

Points for honesty here, this app tells you straight away that it's pointless. Except that it isn't. As you press the button a few times, you start unlocking content such as pictures, and may be intrigued as to what all you get

with more clicks.

Download: <http://goo.gl/iV5AWP>

I am Rich

This app seems more sarcastic than true to its name. Before it was banned on iTunes, the app costed about \$1,000. But the app does nothing, it simply puts an image of a red gem on your screen. It's more like they were mocking the people who can spend \$1,000 for an app. Surprisingly, eight people had even bought it.

Download: <http://goo.gl/IAo4A3>

**Hold the Button**

How long can you hold down a button? Well, that's exactly what this app tries to find out. You have to press and hold a button and a timer will measure how long you did so. The app maintains a world leaderboard as well. It's even more pointless than the Pointless Button.

Download: <http://goo.gl/30BwYR>

Blower

This app amplifies the air coming out of your Apple device in each beat, which is enough to blow candles from a close proximity. There's no such secret hardware in your Apple device which the app unlocks.

Download: <http://goo.gl/o3Fi9c>

Pimple Popper

Ok, squishing zombies or insects is one thing, but pimples? Is that really what you want to do with your new iPhone? This app gives you a range of pimples to choose from and squish. Gross!

Download: <http://goo.gl/y5TH9x>

Yo

How this app ever got investments worth a million dollars is anybody's guess. The app simply lets you send the message 'Yo' to your friends and peers. In fact, TV series



Breaking Bad star Aaron Paul took it a step further, with another app called 'Yo B****'. No prizes for guessing what that does.

Download: <http://www.justyo.co/>

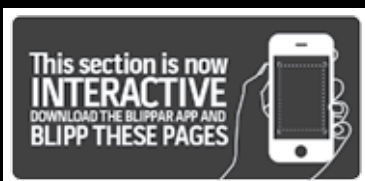
INSPIRE TO MAKE

Your hands are meant for making. Here's a channel that brings out the maker in you. From ammo shells that can be



re-purposed as earphones to beautiful Christmas ornaments, there aren't many videos here, but what it lacks in content, it makes up for in originality and beauty. Take a look, be inspired and keep an eye on this channel

<http://dgit.in/insp2mke>



For a list of all the links from this section, head over to <http://dgit.in/WorldViewFeb15>

(PRODUCT LAUNCHES)

SONY SMARTWATCH 3



Sony's smartwatch was either too early for the party or showed up in the wrong costume. With the SmartWatch 3, Sony seems to have gotten things right and then some. Running Android Wear and 4 gigs of memory. Expect it to set you back by ₹19,990/-

NVIDIA GTX 960



Nvidia's new Maxwell architecture was first seen in the top-end GTX 980 and the low-end 750Ti. Its latest offering is the GTX 960, which is slotted neatly between the other two cards is aimed at individuals playing multiplayer online battle arena games, the card costs ₹16,450/-

SAMSUNG T1 1TB



Samsung has proven its prowess at producing portable storage drives by giving us a range of SSDs that can hold between a modest 250 GB to a whopping 1TB. The 1TB is connected via USB 3.0 and is supposed to be as fast as an internal SSD. It costs a steep ₹37,000/- (\$599.99)

PICTURE PUZZLE



ABSOLUTE
TIMEPASS

UNJUMBLE ON YOUR MOBILE



DOWNLOAD BLIPPAR APP ► FILL SCREEN WITH IMAGE ► BLIPP IMAGE INTO LIFE!

Top 3 YouTube Picks

Make sure your boss doesn't catch you goofing off with one of these videos playing on your screen



Story of R32

One destitute robot, an apathetic society and low battery. This short film about a lonely robot trying to make a connection hits you right in the feels <http://dgit.in/sadr32>



Gravity Visualised

Watch as this Physics teacher explains how gravity works and the role it played in influencing key characteristics of our solar system and more <http://dgit.in/solargravity>



Sad But Superstitious

Either Metallica gained a horn section and some groove or Stevie Wonder has a darker side. This mash-up is more epic than the originals <http://dgit.in/songchanging>



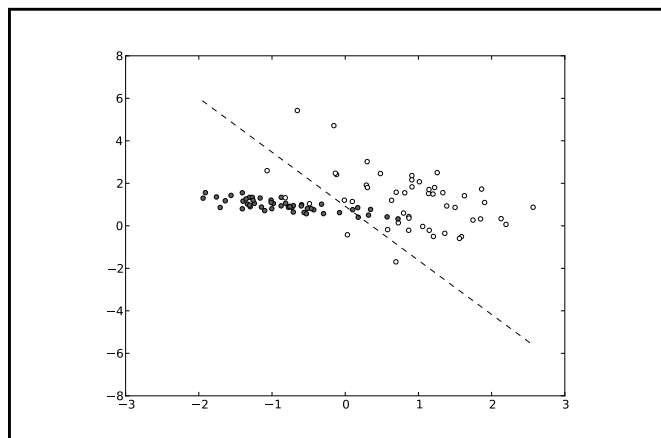
If you're running Windows 10 then the latest update has installed DirectX12: <http://dgit.in/DormantDX12>

An introduction to Machine Learning

>>Can machines learn? What does it even mean to learn something? And if machines really can learn, how can we use that to our advantage?> by Kshitij Sobti

Machine learning is a term that you are likely to have encountered in increasing frequency in the past few years. It might remind you of a similar term, Artificial Intelligence, and how often it seems more disappointing than exciting to see an Artificial Intelligence (AI) at work.

If someone asked you, are machines intelligent? Can they be? Chances are most people would say no. The problem is with what we expect from Artificial Intelligence. Comparing Artificial Intelligence and human intelligence is like comparing computer and human speed. One can quickly declare that humans are faster than computers because they can run, while a computer just sits there. Artificial Intelligence needs to work with the strengths of computer systems while human intelligence needs to work with the strengths of the human mind. Criticising Artificial Intelligence because it cannot appreciate art is as bad as calling humans unintelligent because they cannot calculate ■ (pi) to the millionth digit.



Machine Language algorithms can find the boundary, the line, that separates the data that belongs to one category, and data that doesn't, and then use that to classify future data.

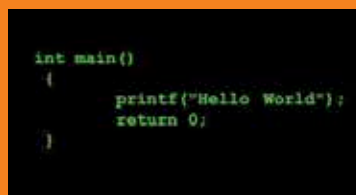
*coding matters



*Rust 1.0 Alpha

>>The Rust programming language by Mozilla has reached alpha status for its 1.0 release. This means that the language and libraries and feature complete and the syntax is stable. The language could be just a few months away from release.

<http://www.rust-lang.org/>



*printf in detail

>>Functions like printf are something most programmers take for granted. It is low-level enough that even C-programmers just use it out of the box. Ever wanted to know the details of how printf itself works? Here is a deep dive.

<http://dgit.in/DetailPrintf>



*Linux IO Schedulers

>>How do all the applications running on your computer schedule IO operations, and how does the OS manage all that, what are the different approaches? If you ever wanted this question answered, this article is what you were looking for.

<http://dgit.in/LinuxIO>

Note that Artificial Intelligence and Machine Learning aren't two disparate fields of computing, in fact they are closely related.

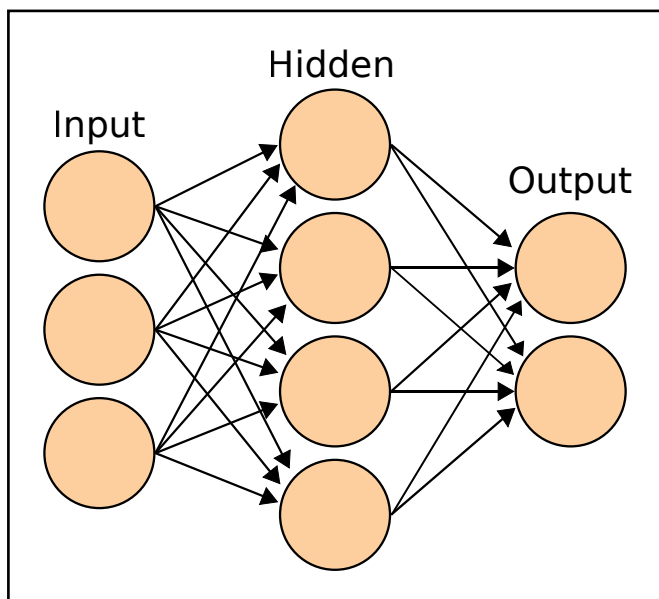
So when we speak of Machine Learning, we need to likewise account for the differences between humans and computers. Before we talk about what is learning for a computer, let's look at what learning means for humans. Learning is about gaining knowledge and skills through study or experience. Obviously this isn't exactly what you'd expect a computer to do, but Machine Learning does come quite close.

What is Machine Learning?

Machine Learning is about creating computer algorithms that can learn how to make optimal decisions based on models created by processing large amounts of data.

A popular example of this that you definitely would have heard of and encountered is the spam filter in email (and other places as well). There is no "formula" for calculating which email is spam and which isn't. So how does a computer know, how does it calculate the worth of an email?

In this particular case, there is no dearth of data available about what constitutes a spam email and what constitutes a genuine email. People provide this data themselves by marking an email as spam, and less often marking an email as not spam.



Neural networks sound complicated, but are easy to grasp once you know the basics of machine learning. In the above representation, the circles in the input column represent elements of the input, for example bank balance and salary, the lines represent their weights, there can be multiple hidden layers, that apply more weights, and the output is the result.

The spam filter uses this increasing database of spam and non-spam emails to develop a model of what a spam email is, and what it isn't. For instance, a tampered or missing email header might directly qualify an email as spam no matter what its contents and an email from a valid contact might automatically pass through the spam filter even if it is quite "spammy".

In fact the above example falls into a type of Machine Learning called Supervised learning, which we will cover in greater detail later.

Here are a few more examples that might give you an idea of what machine learning is:

- **Shopping recommendations on websites like Amazon:** These are called recommender systems and they look at data from millions of users to recommend products to users based on their browsing / purchase history.
- **Optical character recognition:** These systems can convert scanned documents into editable text by detecting characters in the scanned image. Usually these software are pre-trained to recognise scanned documents, but will improve with user guidance.
- **Voice recognition:** Similar to above, voice recognition technologies — such as the ones built into phones these days — include a model for voice recognition that the computer learns by learning relationships between voice and text. Often such software will continue improving by learning the users specific voice better.

In all these examples, data is a key feature, and the more you have the better. However there is more to it than just throwing more data at a problem. Let's look a bit at what training / learning is when it comes to machines.

Training with Data

To understand training / learning from data, let's take the example of a bank developing an algorithm to determine whether to approve a credit card request or not. There is no straightforward formula for this, but perhaps machine learning can help?

The data we can supply to the algorithm is all the data we have about the customer from the form they filled. We know their salary, their home address, their bank balance, whether they own the house they live in etc. We want the algorithm to look at this and tell us whether to approve or deny a credit card.

To train this system we will give it data we already have. We give it the above information about previous customers who we already issued a credit card, with an added piece of data that says whether the card should have been approved or denied. The bank can base this information on those people who regularly paid their credit card dues, and those who defaulted.

Looking at this data, the algorithm will then try to determine where to draw the line between a customer that should be given a card and the customer that shouldn't be given one. It will build up a formula composed of the different factors in consideration, such as the salary, and whether their house is owned or rented, and their bank balance. It will keep varying the weights applied to these parameters until it gets to a formula that gives the correct result for all the training data.

This isn't without problems though, and it comes down to the concepts of underfitting and overfitting.

Underfitting is what you end up with if you just don't have enough data to get the system to the point where it can make good enough decisions. For instance, if we have no information about the salary of the applicant, chances are we will not have enough data to make a decision. There is little you can do in this case then to collect more data.

It is also possible that the machine learns very well from the training data, and gets a perfect result, however, it utterly fails when applied to real world data. The formula the algorithm develops has learned to fit the training data so close that it

fails outside it. If you memorise answers to all the practise questions, you might do splendidly if those very questions come up, but fail otherwise.

The real-world concept of stereotypes encapsulates these concepts quite well. People learn to make assumptions about people based on their class / race / religion / gender. One can develop a stereotype of people of a particular type based on someone they know. This is like overfitting, because these stereotypes will not hold up in real life, they only apply to the person you know. On the other hand, if you learn a stereotype from others and try to base decision on that, your decision are based on poor and incomplete data.

Categories of Machine Learning

As we may have hinted before there are different categories of Machine Learning. There are different kinds of problems that one might try to apply machine learning to, and they define the approach we need to take towards building a model of the data.

Supervised Learning

We already mentioned supervised learning when we discussed spam filtering earlier. Spam filtering is essentially looking at a piece of data (an email with extended information about its headers) and deciding whether it fits in the spam category or not. This in itself does not imply that it is supervised learning, since it is an example of the application of what has been learned.

Supervised learning then is about how we train the computer to recognise spam. In this case we are feeding the algorithm a large number of emails that are already marked as spam or not spam. It is like teaching children what is hot and what is cold by giving them examples of both. In supervised learning, we provide data that is already labelled, which the computer trains on and then.

We can take this example further and look at what Google is doing now with Gmail; putting email into different categories (Social, Promotion, Updated, Forum, etc.). Here it isn't just a matter of spam or not, but of deciding which category an email belongs to. Gmail can learn from how people apply these labels to their mails and do it automatically in the future.

While supervised learning makes it sound like a human needs to manually create, feed or categorise the data, this is not exactly true. The data can come from anywhere with the only condition being that it should be correctly labelled.

*pointers

>>Interesting developer videos



*Octave tutorials

>>Octave is a free and open source alternative to MATLAB by GNU, that uses a MATLAB-compatible syntax. This extensive video series on Octave teaches you how to use this software in depth. These skills are applicable in MATLAB as well.

<http://dgit.in/1BQwamu>



*Scikit-learn

>>This forty-minute long talk delivered at the EuroPython 2014 Python convention takes a look at scikit-learn, an open source machine learning library for Python. Despite the short length it covers a lot.

<http://dgit.in/ScikitLearn>



*Introduction to R

>>R is a great programming language for the mathematically oriented. It has a wealth of features when it comes to dealing with large amounts of data, such as filtering, processing, and visualisation.

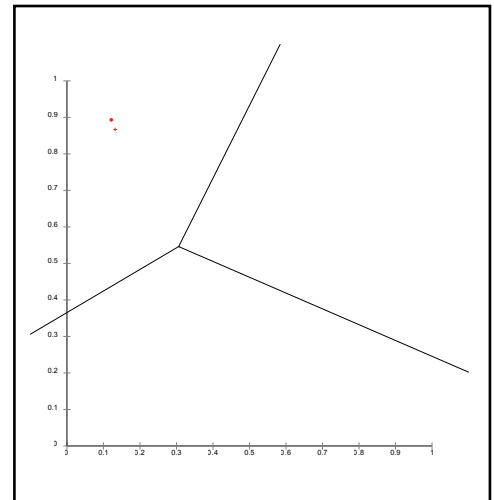
<http://dgit.in/RLangIntro>



*Machine Learning in R

>>R is great at dealing with large amounts of data. This is a meaty lecture that also includes introductory content about machine learning itself.

<http://dgit.in/MachineR>



k-means clustering can divide data into clusters by starting with random clusters and repeatedly reevaluating the centre and membership of clusters.

Unsupervised Learning

We gave the example above of how children can learn what is hot and what is cold by giving them example of each. The fact is though, that a child could easily learn the difference between hot and cold without being explicitly told which is hot and which is cold. The child might not have the vocabulary to describe them as hot or cold, but could still put them in different categories in its mind. It's more likely that a child already thinks of things as hot and cold, and simply learns to apply those labels as and when he/she comes across new experiences.

Computers can similarly learn things from data, and put them into different categories without being explicitly told what kind of data belongs to which category.

For example, on a shopping website, the developers might not know in advance what kinds of users will visit it, and what kind of shopping habits they will have. An unsupervised learning algorithm could be used in such an instance to segregate the users into different segments and cater to their needs based on other users like them. This is one of the steps taken towards building a good recommendation engine.

Another great example of where this can be used in biology, in analysing gene sequences. It can be used to cluster gene sequences, and find relations between genes.

Think of any situation where data can be grouped into segments, whether you know those segments in advance or not, and you have a candidate for implementing unsupervised machine learning.

Reinforcement Learning

Think of the most mundane thing that you probably do in your life, say making butter toast. If you explore this simple activity you will learn that there is a deep hierarchy of learned behaviours that determines how you perform this task.

On one level you have the act of making toast. How much butter do you add, how long do you toast it on a stove? How do you know its done? Part of this is based on what you've learned from others, but most important is what comes from personal taste. You've made toast before, and you know what you like. Each successfully toasted piece of bread counts as positive reinforcement, and strengthens your preference for the amount of butter you used and the colour of the bread after toasting.

On a lower level, you learned how to make a bread toast. The fact that it involves butter and bread, that you have to turn on the gas and put on a frying pan. On an even lower level you probably had to learn that you need to go the kitchen to do all this, and how to turn on the gas in the first place. Go lower and you come to learning how to move muscles to make movements such as walking or turning knobs.

Computer programs, especially those used in artificial intelligence can also be developed with this approach in mind. With reinforcement learning the computer performs a task and gets a positive or negative response which it then uses to categorise that action appropriately. For example a AI chess program could learn whether a move is good or bad based on whether that move leads to a victory or defeat.

This poses some interesting problems though. Firstly, which move is it that the computer made that resulted in victory? It's possible that the move that led to victory came dozens of moves before the final checkmate. Where should it assign credit? Secondly, is it better to try something new, and explore new moves or just use old winning moves even though they might be countered this time?

Conclusion

Machine Learning is in use more places than you probably realised, and it is a rich subject for study. There is yet much to be discovered



Here is an example of optical character recognition on a number plate. Before you can begin recognising characters, you first have to break the image into individual characters. This too can be accomplished with machine learning.

in this field especially when it comes to things such as reinforcement learning.

There are dozens if not hundreds of algorithms for different kinds of machine learning. Such as Neural Networks, Support Vector Machines, k-means clustering, Linear and Logistic regression, etc.

There are also many software packages that help you apply these algorithms to data to make sense of it. Examples of these would be scikit-learn, OpenCV, MLPACK, Apache Mahout, IBM SPSS, and MATLAB among hundreds of others.

If anything there is too much data available these days, and Machine Learning is the way to make sense of it and process it when it reaches the point when humans no longer can.

If you really want to learn machine learning in depth, there are excellent free resources available online. There are free courses on Machine Learning available on educational websites such as edx.org and coursera.org that are well worth checking out. >

*Training Data



*Coursera's Machine Learning Course

>>Coursera has a great course on machine learning that uses MATLAB and is easy for beginners to get into. It includes topics such as Perceptrons, Neural Networks, and Support Vector Machines.

<http://dgit.in/MachineLearn>



*EDX's Machine Learning Course

>>This course on Machine Learning at EdX focuses on the theoretical aspects of Machine Learning, what learning even means and if it is possible for a machine to learn. It is available free of cost.

<http://dgit.in/EDXMachLearn>



*Sage

>>Sage is a great software package for mathematics and science. It tries to rival MATLAB in features, while using Python as its language instead. It comes with a plethora of scientific packages for Python and you can add more.

<http://www.sagemath.org/>

Price Watch

All that awesome gear that you want is listed for your perusal. We curate, you shop!

Killer Rigs

Looking for a PC configuration to suit your needs? Chose from budget, mid range, high-end and other builds

Mini PCs

In the age of miniaturisation of tech gadgets, the diminutively tiny, space-saving desktop PCs are back in fashion

Agent 001

agent001@digit.in


There are several good reasons to consider buying a small form factor PC – in other words, a mini PC – to replace your old, dusty desktop computer. No one has the space in their homes to accommodate full tower cabinets and traditional desktop PCs anymore, especially if you're trying to upgrade your 5-6 year old PC – why invite more dust unnecessarily? Most small form factor PCs sold in the market have laptop components when it comes to their processor, graphics card, RAM and hard drive. This isn't great news for gaming enthusiasts or people placing huge demands on their PCs, but it's great for one simple reason – power saving. Laptop components are designed to operate at low power and generally utilise power efficiently, which translates into significant cuts on your electricity bill. Mini PCs are perennial favourites among those trying to set up an HTPC, with a central media server to access through all your smart devices.

If you have to buy mini PCs off the shelf, here are a few suggestions. ZOTAC is leading the charge with its mini PCs in India, and easily has the widest variety (with varying configurations and price ranges) to pick and choose from. Not just configurations, they have products in different shapes and sizes too – from rectangular boxes to spheres. To buy the best performing mini PC in the market, go with the ZOTAC EI750 (Plus) which comes with an Intel Core i7 chip, oodles of RAM,

a large-spaced hard drive and onboard Intel HD Iris Pro 5200 graphics card. Watching HD movies and performing day-to-day activities such as surfing the web and working on productivity sheets should work just fine on it. The EN760 Plus is another knight in shining armour from ZOTAC's stables, equipped with NVIDIA GeForce 860M graphics chip, which should provide some much-needed relief to gaming enthusiasts. Gigabyte's BRIX PC is a competing product that challenges ZOTAC's supremacy, offering much of the same flagship features and a higher-priced SSD variant which should really speed things up considerably in terms of overall end-user experience.

Enough of the high-end mini PCs, let's check out the other extreme – the budget segment. The Intel NUC Kit is a great option within the 10k-20k price segments. The cheapest option running on a Celeron dual-core chip with Windows 8.1 OS and three years warranty is available for purchase on e-commerce websites in India. These tiny PC boxes have standard IO ports, not to mention wireless connectivity options as well. If you want to get your hands dirty, I highly recommend

popping out the standard hard drive from these tiny boxes and replacing it with an SSD – whichever fits your budget. Just the speed bump you'll get will make the experience worth it. Hooking up a NAS or USB 3.0 enabled external hard drive directly to your SSD-enabled mini PC (running either on Windows or XBMC) to serve content onto your HDTV, smartphone, tablet or laptop is a liberating experience to feed our evolving content consumption needs, believe you me. As to where to buy these products from, online is clearly the way to hunt for deals (since most tech-savvy brick-and-mortar computer peripheral stores also sell on e-commerce platforms these days).

In the next month or so, I'll be dismantling my existing mini "media center" PC set-up to try and miniaturise the PC hub even more. How exactly? Let's just say the recently announced Intel Thumb PCs at CES 2015 are going to fall into my lap pretty soon. Can you imagine? A fully functional x86 computer not bigger than the size of a Chromecast. Soon enough I'll let you guys know how that upgrade comes along in the coming months. Until then, stay tuned. 





Batkid movie

A movie based on the story of a five-year-old who battled leukemia is in the works. http://dgit.in/Batkid_Mov



Check out DayZ

Although the open-world zombie survival game DayZ is still under development, it has sold over 3 million copies. http://dgit.in/DayZ_CraZ

Laptop buying recommendation

I'd like to buy a laptop in the range of ₹80k-85k, preferably a touch-screen. Please suggest what to buy and also whether I should go for a touchscreen or not. Thanks!

– Sachin Singh

A The biggest consideration for a laptop in that price range are entertainment needs. If you need an all-purpose, fully functional notebook that can potentially replace your existing desktop PC, then look no further than the Lenovo Y50-70 premium laptop. The notebook is priced at ₹83k and won the 'Best Performing Laptop of the Year' **Zero1 Award** (December 2014 issue). It has a very good configuration, just take a look at the specs: A quad-core Intel Core i7-4710HQ processor clocked at 2.5 GHz (with Turbo Boost capability reaching 3.5 GHz), 8GB RAM, 1TB HDD + 8GB SSD (hybrid



Lenovo Y50-70

storage) and NVIDIA GeForce GTX 860M graphics with 4GB GDDR5 dedicated memory. Day-to-day tasks will happen much faster, and you can think of gaming at full settings with all the latest games, too. You can't go wrong with this choice.

Similar laptops exist from other brands like Dell, Acer and HP, but also take a look at Toshiba's Satellite P50t-B, which comes with a 4K UHD screen, packed with 3840x2160 screen resolution. This laptop comes with the exact same CPU as the Lenovo Y50-70, 16GB of RAM, 1TB hard drive and AMD Radeon R9 M265X graphics with 2GB GDDR5 memory. This may not be as highly adept at gaming as the Lenovo Y50-70, but it does have a ultra-high definition screen to woo early adopters. If you're looking to

purchase a super slim, high-end ultra-book at that price range, consider the Acer Aspire S7 (which has a touchscreen), Toshiba Portege Z30t-A, Lenovo YOGA 2 (also comes with a touchscreen) or even an Apple MacBook Air (with 256GB SSD). All of these ultraportable laptops are great machines, ones that we enjoyed reviewing and testing in 2014.

Which mini-tablet to buy? Apple, Google or Sony?

Dear Agent 001,

I want to buy a mini tablet. I have short-listed the following three tablets:

1. Google Nexus 7 2013
2. Sony Xperia Z Ultra
3. Apple iPad mini (1st gen)

These tablets fit my budget. Please help me make a decision. Size is not an issue for me. Please answer soon. Thank you.

– Remen Khullar

A First of all, good job exploring a couple of years old tablets (that are still relevant), and frankly all three tablets of your choice have something going for them. Take the case of the Google Nexus 7 (2013), which is a great tablet to enjoy pure, vanilla Android experience – without any of the custom UI skins that are injected into most OEM brands – just as Google intended it to be. This almost two-year-old device still has good hardware for most of your tablet browsing needs, whether it be watching movies, listening to music, plain old reading ebooks or consuming social media content. It fully supports the current Android Lollipop update as well. The Sony Xperia Z Ultra is a very large smartphone/phablet, with a screen



The iPad mini has a great OS

measuring 6.4-inches. Besides being the smallest "tablet" from your preferred bunch, it's also the most expensive among them. Apart from good hardware, it's also the only device from the bunch which is small enough to fit into your trouser pocket. The Sony Xperia Z Ultra comes with an enviable list of features, one of which is being completely waterproof. The iPad mini is the largest device amongst the three with a 7.9-inch screen, and you'll probably get the best performance and user experience you'll encounter because of its silky smooth OS.

Earphones under 1k

I'm a cash-strapped audio enthusiast looking to buy a respectable pair of earphones on a budget. I'm confused between the Mi pistons and Sennheiser CX180. Both



Mi Piston

have great reviews so please tell me which one to buy? Any other suggestions are also welcome. Thanks Agent 001.

– Ankur Vinny

A Experience tells us that the Mi pistons are better than

Sennheiser CX180. There's no denying that at ₹799, the Mi earphones are a fantastic deal. Bass heads won't like the Mi but those with a preference for mids and highs will be pleasantly surprised. Fans of Rock, Jazz and Pop vocals may seriously consider these earphones. Still, the overall performance, build quality and design make these a very good buy. Fans of Hip-Hop and Electronic music may want to look at the Cowon EM-1s, as they have a warmer and slightly less treble-oriented output for picky ears at the same price.

Android phone under 10k

I wanted to purchase a new phone but I'm completely confused about which one to buy. I know I want an Android phone for sure and can't afford to spend over 10k. What are my options?

– A Digit reader

COMETH THE HOUR, COMETH THE WOMAN

"Do women play games?" What a draconian thought, right? Women have always participated in video games since the industry's inception. The percentage of female participants may not be as high as men, but they've always formed a considerable section of the gaming fraternity. With the rise of smartphones, more and more female consumers are pouring in. Women are not only playing mere casual games but also "hardcore" games such as Call of Duty, World of Warcraft, DOTA and Counter Strike, among others

Here's an interesting question: Why do people think that the majority of women are not interested in playing social or mobile games? Maybe the lack of games with female protagonists is a reason. More often than not, the female characters in video games are showcased as damsels in distress or reinforce old stereotypes that no woman relates to. With time, we've furthered ourselves with technology and advanced methods of creating video games. And yet, the way female characters are designed remains quite outdated. Most female characters are stereotyped in the worst possible way, with heavy makeup, typically sculpted bodies with provocative clothes and high heels.

The tide is turning, though. Games these days are targeted towards mass audiences rather than gender-defined audiences or any other section, for that matter. Award-winning game *Journey's* protagonist is a faceless character without a specific gender,



Journey, a game that defies stereotypes

culture or country. Also games like *Transistor* or *Child Of Light* are taken forward by female protagonists who move away from the usual stereotypes. They're fresh and creatively conceptualised characters who actually fit the storyline of the game. Such games lean towards being more of a "heroine's journey" than just female versions of a male specific/fantasy orientated game. This kind of fresh outlook on games, be it from any genre, works by targeting not only women but gamers of other age groups and races as well.

Women are not only consumers in the video game industry but also creators of these games. Though the percentage is not very high at the moment, it's slowly increasing. Besides joining as Game Artists, the number of female Game Designers and Programmers is gradually growing. People such as Kellee Santiago – Game Designer, Producer and Founder of 'ThatGameCompany', makers of the beautifully crafted, multi-award winning game *Journey* – can only be expected to pull in more female talent into the industry. As more such like-minded women enter the industry, Gaming is set to grow by leaps and bounds by being all-inclusive.

Written by Shruti Ghosh, a video game industry veteran of 7 years, who's currently a Game Art Trainer at DSKSIC. For more articles, visit dsk.digit.in

The competition in the smartphone market is intense in the sub-10k price range. Motorola revolutionised this space with premium-looking, good quality phones last year, changing the game and further stoking the flames of competition. Asus, Karbonn, Motorola, Xiaomi and Huawei, among many others have made legitimate claims on the consumer's pocket. But if there's one phone that impressed us above all else in this price segment, it has to be the Asus Zenfone 5. The phone has a dual-core Intel Atom SoC, with hyper-threading support leading to a fast-paced, breezy user experience. To top that, the Zenfone 5 offers an 8MP camera that's better than some 13MP shooters in the market. Add to this the fact that the phone's battery lasts you a full day very easily. The phone can't put a foot wrong to be honest.



ASUS Zenfone 5

Cabinet buying advice

Hi Agent 001, I'm in a conundrum. I don't want to buy a mini PC off-the-shelf. I want to build it myself. Can you suggest the best mini-ITX motherboard and cabinet to realise this dream? Also, a round-up of the best cabinets in all price brackets and form factors would be greatly appreciated?

– Sid Shah

Building an HTPC by yourself is a good idea as you'll have plenty of options to choose from. Since you've not mentioned any particular price point, we'll suggest three different options. If you're cash strapped, you should consider getting a motherboard with an embedded CPU such as the Gigabyte GA-J1800N-D2H for ₹4,000 based on the Intel Celeron J1800 chipset, however, keep in mind that it won't be upgradeable in the future. If you want something from the mid-range price bracket, the ASRock Z87E-ITX available for ₹13,350 is an excellent motherboard to go for. House it in the Cooler Master Elite 120 Advanced Mini-ITX case for ₹2,499 and you're set. If you don't have a limited budget, go for the Asus Maximus VII Impact as it's one of the best boards out there with a ton of options. As for the case, get the Bitfenix Prodigy M for ₹6,200 and you'll have a winner on your hands.

Help me pick an HDMI streamer

Dear Agent 001, I basically want to stream content from my tablet, smartphone or laptop onto my 32-inch high-definition television. I've researched a little bit about Miracast dongles. Please help me pick the best one. I trust your decision wholeheartedly in this matter.

– Meet Brar

You haven't mentioned a budget so we'll go through two options. EZCast based streamers are pretty feature rich at lower price points or for a little more money check out Roku's Streamer Stick and get a proxy DNS service like Unlocator.

digit RECOMMENDED BUYS

From smartphones to graphics cards, here's what we recommend for your next purchase!



TOP 3 BEST SMARTPHONES

Brand	Model	Price (in ₹)
Sony	Xperia Z3	44,990
Motorola	Moto X (2nd Gen)	31,999
Apple	iPhone 6	52,950



TOP 3 GAMING LAPTOPS

Brand	Model	Price (in ₹)
ASUS	G551JK	82,999
MSI	GE60 2PE	1,14,540
MSI	GS60 2PE	1,35,490



TOP 3 PREMIUM POINT AND SHOOT CAMERAS

Brand	Model	Price (in ₹)
Fujifilm	X100s	68,000
Sony	DSC-RX100 II	34,429
Fujifilm	FinePix X20	29,999



TOP 3 ULTRABOOKS

Brand	Model	Price (in ₹)
Toshiba	Portege Z30t-A	1,00,000
Acer	Aspire S7-392	90,490
HP	Elitebook 1040 G1	1,24,350



TOP 3 BUDGET GRAPHICS CARDS

Brand	Model	Price (in ₹)
ZOTAC	GTX 660 192-bit 2GB	12,800
ZOTAC	GTX 750TI 2 GB	11,299
Sapphire	Radeon R7 260 X 2GB	9,975



TOP 3 BEST GRAPHICS CARDS

Brand	Model	Price (in ₹)
Sapphire	Radeon R9 295X2	1,18,150
ZOTAC	GTX 980 AMP! Extreme Edition	50,850
ASUS	GTX TITAN Z	1,27,450



TOP 3 BUDGET TABLETS

Brand	Model	Price (in ₹)
ASUS	Nexus 7 2013 (32GB + WiFi)	15,999
Apple	iPad Mini Retina 16GB WiFi	26,800
Digiflip	Pro XT911	14,999



TOP 3 BEST TABLETS

Brand	Model	Price (in ₹)
Apple	iPad Air 2 64GB	40,900
HTC (Google)	Nexus 9 (32GB + LTE)	44,900
Samsung	Galaxy Note 10.1 (2014 Edition)	45,790



TOP 3 BUDGET TO MID RANGE IEMS

Brand	Model	Price (in ₹)
SoundMAGIC	E10M	2,950
Cowon	EM1	975
Creative	HITZ MA350	1,468



TOP 3 GAMING HEADPHONES

Brand	Model	Price (in ₹)
SteelSeries	Siberia V2	5,970
Kingston	Hyper X Cloud	5,500
Thermaltake	Ttesports Level 10M Diamond	18,575

■ Basic rig = ₹25,476 ■ HTPC = ₹30,382 ■ Entry-level gaming = ₹48,145 ■ Mid-range gaming = ₹63,854 ■ Ultra high-end = ₹2,78,797 ■ Digit Test Rig = ₹2,62,160

BASIC RIG

Processor	Intel Pentium G3220	3,367
Motherboard	Gigabyte GA-H81M-S1	3,550
RAM	Kingston ValueRAM 2 GB 1333MHz	1,385
HDD	Toshiba 500GB DT01ACA050	3,299
Monitor	Dell E2014H 19.5-inch LED	6,250
Graphics Card	None	0
Cabinet	NZXT Gamma	2,490
PSU	Corsair VS450	2,200
Speakers (2.1)	Creative SBS A120	1,400
Optical Drive	Samsung SH-224DB/IDDS	995
Mouse	Amkette Ash Black (Bundle)	540
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
Total		₹25,476

HTPC

Processor	AMD A8-6600K	7,100
Motherboard	MSI FM2-A75MA-P33	4,702
RAM	G.Skill RipjawsX DDR3 2 GB (2 x 2 GB) PC RAM (F3-12800CL9S-2GBXL)	4,100
HDD	Western Digital WD20EZRX 2TB	5,849
Monitor	None (your TV)	0
Graphics Card	None (HD7560D onboard)	0
Cabinet	Cooler Master Elite 120 Advanced	2,977
PSU	Cooler Master Thunder 450W	2,660
Speakers	None	0
Optical Drive	Samsung SH-224DB/IDDS	995
Mouse	Microsoft Desktop 2000 wireless combo	1,999
Keyboard	Bundled	0
Sound Card	None	0
Total		₹30,382

ENTRY-LEVEL GAMING

Processor	AMD FX6300	7,250
Motherboard	Gigabyte GA-970A-DS3P	5,850
RAM	G.Skill NS DDR3 4 GB (2 x 2 GB) PC RAM (F3-10600CL9S-2GBNS)	3,350
HDD	Seagate Barracuda 1TB	3,650
Monitor	Dell S2240L	8,385
Graphics Card	Sapphire Radeon R7 260X 2 GB	9,975
Cabinet	NZXT Gamma	2,490
PSU	Cooler Master Thunder 450W	2,660
Speakers	F&D F680	3,000
Optical Drive	Samsung SH-224DB/IDDS	995
Mouse	Amkette Ash Black (Bundle)	540
Keyboard	Amkette Ash Black (Bundle)	0
Sound Card	None	0
Total		₹48,145

MID-RANGE GAMING

Processor	Intel Core i5-4440	11,575
Motherboard	ASUS B85M-G	5,989
RAM	Gskill RipjawsX F3-12800CL9D-8GBXL (2 x 4GB)	6,500
HDD	Toshiba 1TB DT01ACA100	3,650
Monitor	Dell S2240L	8,385
Graphics Card	ZOTAC GTX 660 192-bit 2 GB	12,800
Cabinet	Thermaltake Versa H21	2,980
PSU	Seasonic S12II 620 Watts	5,630
Speakers	F&D F680	3,000
Optical Drive	Samsung SH-224DB/IDDS	995
Mouse	CM Storm Devastator (Bundle)	2,350
Keyboard	CM Storm Devastator (Bundle)	0
Sound Card	None	0
Total		₹63,854

ULTRA HIGH-END GAMING

Processor	Intel Core i7-4790K	23,499
Motherboard	ASRock Z97 Extreme6	14,999
RAM	Corsair Vengeance 16GB CMY16GX-3M2A1866C9B	13,499
HDD	WD WD30EZRX 3TB + Samsung 850 Pro 256GB SSD	21,945
Monitor	BenQ BL3200PT	73,850
Graphics Card	ZOTAC GTX 980 ZT-90201-10P Standard	44,999
Cabinet	NZXT Phantom 820	17,489
PSU	Cooler Master V1000	15,208
Speakers	Logitech Z906 5.1	22,900
Optical Drive	LG Blu-ray WH16NS40 RW	6,100
Mouse	Roccat Kone XTD	5,999
Keyboard	Corsair Vengeance K70	8,460
Sound Card	ASUS Xonar Phoebe	9,850
Total		₹2,78,797

PRIMARY DIGIT TEST RIG

Processor	Intel Core i7 - 4960X (Extreme Edition)	66,188
Motherboard	ASRock X79 Extreme 9	28,499
RAM	Corsair Dominator 32GB - 2133MHz (8GB x 4)	35,540
HDD	Toshiba DT01ABA100V	3,750
SSD	SanDisk Extreme II 240GB (x2 for HDD testing)	24,980
Graphics Card	ZOTAC GTX 980 AMP! Extreme Edition	50,850
Cabinet+ Cooler	Cabinet (NA) + Intel RTS2011LC - Stock AIO	NA
PSU	Corsair HX1050	16,291
Monitor	BenQ GL2460HM	10,900
Optical Drive	NA	NA
Mouse	Razer Ouroboros Elite	9,690
Keyboard	Roccat Isku FX	5,974
Sound Card	ASUS Essence STX	9,498
Total		₹2,62,160



Hey Cortana!

Microsoft's popular virtual assistant Cortana is now available for PC's with Windows 10 Technical Preview. <http://dgit.in/Cortana-Everywhere>

Oppo U3 launched

The Chinese manufacturer Oppo has launched its U3 smartphone featuring an octa-core processor, Dual SIM and Android 4.4. <http://dgit.in/oppo-u3-launch>

SPEND SMART

We round up a diverse set of offerings across multiple price segments. This time we've covered Mini PCs, Speakers and DSLRs'



MINI PCs

Brand	Model	Processor	Processor Clock Speed	Memory (in GB)	Graphics	Storage Capacity	Operating System	Price (in ₹)
Apple	Mac Mini-MGEM2HN/A	Intel Core i5	1.4 GHz	4 GB	Intel HD 5000	500 GB	Mac OS X	35,189
Apple	Mac Mini MGEN2HN/A	Intel Core i5	2.6 GHz	8 GB	Intel Iris	1 TB	Mac OS X	48,990
Apple	Mac Mini-MGEQ2HN/A	Intel Core i5	2.8 GHz	8 GB	Intel Iris	1 TB	Mac OS X	66,658
ASUS	VivoPC-VM40B-S025M	Intel Celeron 1007U	1.5 GHz	2 GB	Intel HD	500 GB	Windows	21,500
ASUS	VM60-G009M	Intel Core i3 3217U	1.8 GHz	4 GB	Intel HD 4000	500 GB	Free DOS	35,000
ASUS	VM60-G008R	Intel Core i5 3337U	1.8 GHz	4 GB	Intel HD	1 TB	Free DOS	49,000
ASUS	Chromebox CN60 (Celeron)	Intel Celeron 2955U	1.4 GHz	2 GB	Intel HD Graphics 4400	16 GB	Chrome OS	19,900
Crow	Android Mini PC	Cortex-A9 Quad core	NA	2 GB	Integrated	32GB (Expandable)	Android 4.2	7,499
Cyberadius	Basic Series CR-PGC-I-002	Intel Core i3 4150	3.5 GHz	4 GB	Geforce GTX 750 Ti	500 GB	Linux	65,438
Cyberadius	Silver Series CR-PGC-I-001	Intel Core i3 4150	3.5 GHz	4 GB	Geforce GTX 750 Ti	500 GB	Windows 8.1	72,111
Cyberadius	Gold Series CR-PGC-G-001	Intel Core i5 4690K	3.5 GHz	8 GB	Geforce GTX 750 Ti	500 GB	Windows 8.1	86,524
Cyberadius	Platinum Series CR-PGC-P-001	Intel Core i7 4790K	4.0 GHz	16 GB	Geforce GTX 980	1 TB	Linux	1,59,095
Dell	OptiPlex FX170	Intel Atom n270	1.6 GHz	NA	Integrated	4 GB Flash	Embedded Windows 7	9,639
Dell	T50	Armada 510	1 GHz	1 GB	VIA VX855	NA	Ubuntu	5,500
G1Thin	PCS Mini PC (Thick Client)	AMD	NA	1 GB	Integrated	8 GB Flash	Windows	8,650
Gigabyte	GB-BXi7G3-760 (Barebones)	Intel Core i7 4710HQ	2.5 GHz	up to 16 GB	GeForce GTX 760	NA	Windows 7	65,000
Intel	NUC Kit D54250WYKH	Intel Core i5 4250U	2.6 GHz	16 GB	Intel HD 5000	NA	NA	27,890
Intel	NUC Kit DN2820FYKH	Intel Celeron Dual Core	2.39 GHz	2 GB	Intel HD	500 GB	Ubuntu	9,799
Lenovo	Thinkcentre M73 (Base model)	Upto Intel Core-i7	NA	up to 16 GB	Intel HD	up to 1 TB	Windows 8.1	27,500
RDP	XL-700	Intel Core i3	NA	2 GB	Intel HD	500 GB	Ubuntu	22,199
RDP	XL-800	Intel Core i5 3470	3.6 GHz	4 GB	Integrated	500 GB	Free DOS	27,140
RDP	XL-550	Intel J1900	2.4 GHz	2 GB	Integrated	500 GB	Free DOS	14,733
Vamaa	SG-PS-X1500	AMD E240	1.5 GHz	1 GB	Integrated	NA	Linux	10,950
ZOTAC	ZBOX Nano ID63-Plus	Intel Core i3 3227U	1.9 GHz	4 GB	Intel HD	500 GB	Windows	27,746
ZOTAC	ZBOX-AD03BR ODD Series	AMD E-350 APU	1.6 GHz	up to 8 GB	AMD Radeon HD 6310	NA	Windows	29,590
ZOTAC	ZBOX EI730	Intel Core i5 4570R	2.7 GHz	up to 16 GB	Iris Pro 5200	500 GB	Windows 8.1	54,520
ZOTAC	ZBOX-ID88-U (Barebones)	Intel Core i3 3220T	2.8 GHz	up to 16 GB	Intel HD	NA	Windows	33,500
ZOTAC	ZBOX-ID45-BE (Barebones)	Intel Core i3 3227U	1.9 GHz	up to 16 GB	GeForce GT 640	NA	NA	38,799



New audio products

Sony India expanded its audio lineup with their new MDR-Z7 headphones and PHA-3 amplifier
<http://dgit.in/SonyAud>



WhatsApp banning users

WhatsApp has issued 24 hour bans for customers using third party Android app WhatsApp Plus
<http://dgit.in/WhatsBan>

Price Watch



SURROUND SPEAKERS

Brand	Model	Configuration	Output (in Watts)	Chassis Material	Frequency Response	Price (in ₹)
Creative	Inspire T6160	5.1 Channel	50 W	Plastic	40-20,000 Hz	5,050
Creative	Inspire T6300	5.1 Channel	40 W	Plastic	NA	5,527
Digiflip	PS046	5.1 Channel	NA	Plastic	NA	2,880
Edifier	Multimedia M3500	5.1 Channel	64 W	Wood	NA	7,081
F&D	F3000F	5.1 Channel	80 W	Wood	20-20,000 Hz	5,199
F&D	F3000U	5.1 Channel	29 W	Plastic	20-20,000 Hz	5,490
iBall	Booster	5.1 Channel	120 W	Wood	20-20,000 Hz	6,730
Intex	Mj-580	5.1 Channel	35 W	Wood	20-20,000 Hz	3,660
Logitech	Z906	5.1 Channel	500 W	NA	35-20,000 Hz	22,900
Logitech	Z506	5.1 Channel	75 W	Plastic	NA	6,000
Mitashi	HT 90 FU	5.1 Channel	70 W	Wood	40-20,000 Hz	5,216
Philips	DSP 56U	5.1 Channel	75 W	Wood	20-20,000 Hz	5,399
Philips	DSP 2800	5.1 Channel	20 W	Plastic	NA	2,399
Yamaha	NS-P285	5.1 Channel	30 W	Plastic	30-40,000 Hz	12,600
Zebronics	SW8580RUCF	5.1 Channel	100 W	Plastic	NA	4,986
Mitashi	BS 55 FU	5.1 Channel	60 W	Plastic	40-20,000 Hz	4,075
Denon	SYS-5.1	5.1 Channel	100 W	Plastic	NA	15,900



DSLRs

Brand	Model	Resolution (in Megapixels)	Sensor Type	Microphone	MMC Slots	Approximate Battery Life (in Shots)	Price (in ₹)
Canon	EOS 1200D Kit	18	CMOS	Mono	1	500	27,500
Canon	EOS 5D Mark III Kit	22.3	CMOS	Mono	1	950	2,33,995
Canon	EOS 7D	18	CMOS	Stereo	1	800	1,28,900
Canon	EOS 700D	18	CMOS	Stereo	1	500	46,995
Canon	EOS 60D	18	CMOS	Stereo	1	1100	51,995
Nikon	D5200	24.1	CMOS	Stereo	1	600	33,100
Nikon	D5100	16.2	CMOS	NA	1	510	24,760
Nikon	D4	16.2	CMOS	Mono	1	2600	3,56,024
Nikon	D800	36.3	CMOS	Mono	1	900	1,74,550
Nikon	D3100	14.2	CMOS	NA	1	550	20,034
Pentax	K 5 II DA18-135 mm	16.3	CMOS	Stereo	1	980	80,995
Sony	Alpha SLT-A99V	24.3	Exmor CMOS	NA	1	500	1,45,449
Sony	ILCE-3000K	20.1	BSI CMOS	Stereo	1	500	19,900
Sony	Alpha SLT-A58M	20.1	HD CMOS	Stereo	1	690	44,990
Sony	SLT-A58K	20.1	HD CMOS	Stereo	1	690	30,200



WANTED: CYBER SECURITY EXPERTS

As more and more businesses go online, the burden to safeguard important data and secure the perimeter of their activities falls on the shoulders of cyber security professionals. And the world can't have enough of them at the moment!



Jayesh Shinde
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In December 2014, Sony Pictures tried to release a controversial movie that didn't go down well with North Korea, since it showed the assassination of their Supreme Leader. A standoff ensued, a media storm erupted, and Sony's systems were hacked at multiple levels. Not only did private communications between Sony Pictures' executive team be leaked (along with business documents and other personally identifiable information of employees), to further embarrass the company and add insult to injury information (and material) related to yet-to-be-announced-or-released movies was also leaked out into the open. This is just one example,

as most victims don't even know they've been breached, and most businesses don't report their hacks (to protect shareholders' interest and their brand equity).

Welcome to the world of eroding borders, corroding weapons; full of digital tools ready to be deployed at the click of a button, to wreck cyber mayhem not just on corporates or governments but every entity connected to the Internet. It's a war out there! There are just too many leaks and breaches, and not enough plumbers to fix the holes.

Security may not directly contribute to business' profit margin, but protecting critical data and digital assets are equally important, and more businesses are waking up to this reality.

Technology can only help up to a point, as ultimately, skilled profes-

sionals make all the difference in protecting data in a network environment. In the digital era, cyber security experts are in demand more than ever. And there's no end in sight to this boom.

Technical know-how

You can't hope to make it as a cyber security expert if you don't have the functional knowledge of how computers, and for that matter, digital systems and network infrastructure, operate. Naturally, anyone who's studying Computer Science is an obvious candidate for a prospective future role as a cyber security professional. Apart from that, there're a whole host of industry-accredited professional certifications that need to be obtained to further your growth prospect within the cyber security industry. A breakup of these specific qualifications and desirable skill sets is mentioned in the table alongside.

According to Dubai-based cyber security expert, Dr. Lalit Gupta, distinguished with over 20 years of experience in the domain of cyber security and information security for a global clientele, it's all about understanding the 1s and 0s of how a network infrastructure functions and operates. "Basically CS Professionals need to know fundamentals of how a network works," he says, "with strong fundamentals of hacking techniques and security processes." If you can't think like a hacker trying to gain access into an unauthorized network, you can't possibly imagine to stay one step ahead of the bad guys.

To understand the psyche of unwanted network intruders, he also stresses upon the requisite soft skills that go along with professional certifications which are



ASUS EeeBook

ASUS pulled the wraps off its new and affordable 11.6 inch netbook from its EeeBook series and it's called the X205. <http://dgit.in/EeeBook>



Calling hearts

Heart 401AB, a weird looking phone shaped like a heart will go on sale in Japan in March. More here: <http://dgit.in/LonelyHrt>

Work@Tech

critical to successfully don the hat of a cyber security professional. An inquisitive mind with great communication skills are also critical prerequisites for the job. However, there is no substitute for practical knowledge, and it's more important than a certificate, feels Eshwara Anveshi Kopparthy, VP - IT, Newyorksys Info Solutions Pvt Ltd based in Hyderabad.

He points out, "Skill set develops with experience, and most importantly by hands on experience. For anyone professionally interested in cyber security, the domain of IT consulting in India offers a whole host of opportunities to get a taste of the various flavors of data security activities in the marketplace."

Eshwara studying electronics engineer before earning security related certifications including CCNA, CEH and ISO to get into the world of cyber security and entrepreneurship. His specialities include General IT & Technology Consulting, IT Auditing, and Data Service Management.

Roles and requirements

There are different job roles for cyber security professionals at any workplace, depending on the business' requirements and the candidate's experience and skills. Dr. Lalit Gupta broadly classifies the role of cyber security professionals into the following four main pillars:

- Cyber Security Analyst – Core responsibility includes day to day management of incidences/ attacks happening on network and taking pro-active measures to safeguard the organization assets.
- Cyber Security Manager – Managing the show by defining policies and processes along with the usage of technology. Brings all three, people, process and technology together to work for

cyber security at any business.

- Cyber Security Consultant – This person does the cyber security manager role for multiple clients.
- Cyber Security Tester (Ethical Hacker) – These cyber security individuals are especially geared towards testing the network security by trying hacking techniques and exploiting the vulnerabilities (weaknesses) in the network

hack reaches the cyber security person, the security investigation begins. "The security expert will first try to examine the case to contain the situation or loss. Then they will begin to investigate further to identify the culprit and take necessary HR or disciplinary or other legal actions, before closing the case."

Now that the outside world has been kept outside, what happens next

According to several security experts, America alone has a shortfall of 15,000 network engineers, while the total number of jobs for cyber security experts is anywhere between 40,000 to 50,000 in the US.

or systems. Their processes and tactics fall under the broad umbrella of the term Penetration Testing.

A typical work day

Before you start thinking, no it's not all about warding off hackers and DDOS attacks. Sure, the possibility always remains, but for the most part the life of a cyber security professional is far from that of cyber patrol.

Mr. Kopparthy likes to explain the work of a cyber security professional as that of a two-way handshake between the external world and internal world (your company). Let's take a look at the external world first. "Consider the password of an employee's login account in your company has been hacked.

The role of cyber security begins from the point of identification of the breach," says Mr. Kopparthy. When there is visibility in a process or a set up, one can build security or improvise it. So, as soon as the information on the

is the presence of imminent risk and its mitigation. "This is where the first true step of the cyber security professional begins," according to Mr. Kopparthy. "The security professionals must draw policies and procedures to regularly check or review or audit the systems, processes, activities, documentation, etc in order to ensure information or business assets are managed without any loss of confidentiality, integrity, availability, non-repudiation, accountability and reliability.

They have to consider international standards like ISO, HIPAA, PCI, etc., and implement those essential and mandatory standards as required by the business." The ultimate objective of all cyber security professionals, he explains, is to ensure smooth streamlined operations, quality, compliance and risk free working environment.

Sky's the limit

Both the experts quoted here agree that the demand for cyber security professionals, not just in India, but around the world, has never been so high. And it only promises to go up in the coming years, given the explosion of Internet in all facets of our lives. "There is a scarcity of security professionals in all sectors of government, public and private industries," claims Mr. Kopparthy, "and companies are looking at resources with more hands-on experience than theoretical knowledge." What are you waiting for?

Professional Certifications	Soft Skills
CISSP (for general high level understanding of Information Security fundamentals)	Knowledge of psychology, sociology and organizational behavior
CISA (for IT audit and review perspective)	Inquisitive minds
CEH / OSCP / CPTC / GPEN / CPTE	Open Minded nature
ISMS & Risk Management concepts from ISO27001 Lead Implementer training	Integrity
Other GIAC and SANS certifications	Communication
Other networking vendor certifications like CCNP / CCIE / MCSE / RHLNSA	Staying up to date

**Wearable Multi-tool**

Another tool that's vying for your wrist is the Leatherman Tread. Check it out: <http://dgit.in/1y00Xqu>

**We want IR!**

An Infra-Red sensor on a phone doesn't seem to make sense, but this article just might change your mind: <http://dgit.in/1CsT4z4>



In black and white: of privacy and free speech online

Digit and Bhairav Acharya, a constitutional lawyer based in Delhi and Bangalore, discuss the duality of our rationality and our value system when dealing with our real and virtual lives in the era of the Internet. The views expressed here are his own. Please treat them as such.

◀ Bhairav Acharya, Constitutional Lawyer at Supreme Court of India, with a keen interest in all matters concerning free speech and privacy issues.

For a regular citizen, what is the free speech and privacy situation in India and how does it compare to other countries?

Acharya: This is a very relevant question; let's first deal with free speech and then with privacy. While political criticism is allowed, India criminalises many kinds of speech that are allowed in other democracies. Thomas Macaulay, who drafted the Indian Penal Code in the mid-1800s, believed that Indians were irrational and prone to religious excitement. Unfortunately, this condescending stereotype appears to have been prophetic. While all mature democracies allow and constitutionally protect offensive and insulting speech, India still convulses each time a film or book merely examines issues such as religion, caste, or culture.

Online speech has received even heavier censorship. Ordinary citizens have been arrested simply for liking Facebook posts or voicing other harmless opinions, such as the two young women who questioned a Mumbai bandh. There is something morally unsound about a nation that uses its law as a weapon to harass artists and writers and students. This is unlike the US, which strongly protects the free speech rights of its citizens, including the right to burn the national flag, sexually depict religious symbols, or non-violently insult a community. India also does not have laws to properly protect

privacy. Look at telephone tapping, for instance. Instead of an independent and neutral authority, a senior bureaucrat orders a phone tap and a committee consisting of more bureaucrats is supposed to review this decision. There is no external oversight, unlike other democracies where both national security and citizens' privacy is better protected. This farcical situation derives from an 1885 colonial law which has not been properly reformed. As you can imagine, privacy is the first casualty.

The government is rolling out Central Monitoring System (CMS) and NETRA for surveillance on the grounds of 'national security'. What can you tell us about it?

Acharya: As long as the CMS is merely an automation of the existing targeted telephone tapping procedure, there is nothing wrong with the project itself. The problem is that the telephone tapping regime in India as a whole needs to be changed. For instance, in the US, a wiretap warrant is only issued by a judge after the government meets certain minimum legal standards. In India, the order is issued by a senior bureaucrat who is not a judicial authority but is allowed to interpret the law. In the UK, which also gives the tapping power to a government official, the tapping order is subsequently audited by an independent commissioner

who reports to their Parliament, and the tapping order can also be reviewed by a quasi-judicial tribunal. In India, the only review mechanism is an informal group of further bureaucrats. A recent RTI request revealed no records of the meetings of this review group.

There is a difference between targeted surveillance and mass surveillance, the former is against an individual while the latter is against an entire population. If newspaper reports (quoting an unnamed government official) are to be believed, NETRA is a secret project to conduct mass surveillance of the Internet activities of all Indians. If this is not the case, the government should explain NETRA through a parliamentary statement. Assuming the worst-case scenario is true – and I sincerely hope that it is not – NETRA can be used to analyse all traffic flowing through ISP nodes to monitor all Internet activity and communications. Personally, I hope that NETRA will be a targeted mechanism that will follow the procedures set out in the IT Act. However, like the telephone tapping regime, the Internet monitoring regime also suffers from broader flaws that need to be rectified before large-scale projects like NETRA should be permitted to function.

As the Internet slowly becomes indispensable, how are the authorities adjusting to

Samsung reads your mind, saves lives

Samsung has been working on a sensor that reads your brain activity and warns you if you're about to have a stroke: <http://dgit.in/15MduqP>



this new reality? And how are they safeguarding our rights?

Acharya: The answer to this question is very worrying. Sadly, there is no understanding of how technology is changing the nature of governance and crime. In a recent corruption trial in Delhi, the magistrate and court staff did not know how a digital voice recorder, which had captured the allegedly illegal transaction, functioned or how the data was transferred to a CD. If this happens in the national capital, the future of evidence law is bleak. There is also a childish understanding of cyber-crime that comes into play whenever the Internet is used to coordinate crime, which nowadays is quite common.

From the police to government officials to judges, there is only an amateur-level understanding of basic concepts of the Internet. We see manifestations of this each time entire top-level domains are blocked instead of specific sub-domains because the relevant officials failed to provide deep links. Our law, too, reflects this inexperience and mentality.

As an Indian netizen, what are some of my rights and responsibilities online?

Acharya: I think the basic principle to demand is this: whatever is legal or illegal offline should be similarly legal or illegal online. In India, this simple principle of equivalence is not followed. Hence, in the case of section 66A of the IT Act, communications that are annoying and inconvenient invite jail terms simply because they were sent using a computer. If we were to go about punishing inconvenience, I think most of the country would find themselves locked up. We must follow the principle of equivalence which extends our regular rights and responsibilities to the Internet.

What is your opinion on online censorship?

Acharya: The Internet has tremendously democratised knowledge; and, like all communications platforms, it can also be used to commit crimes. The way forward does not lie in restricting and censoring the Internet, but in understanding how it functions to be able to intelligently address crimes. Take, for instance, the law of website blocking. Like the banning of films or books, website blocks should

be seriously studied. Instead, the law permits websites to be blocked in secrecy, even the user who generated the content is unaware of the block, with no avenue for an appeal.

But, as I said earlier, I think the fundamental problem is both societal and legal. As long as we censor books and films and music and art that some people do not agree with, we are allowing fringe outfits to impose their views on the whole nation. The problem of intolerance in India afflicts all religions and communities, and for too long the free speech rights of the many are hijacked because of the fundamentalism of the few. We must understand that we should not have a right not to be offended. The law should not be invoked each time someone says something we do not like. Getting offended is a part of multicultural democracy; we just have to deal with it.

Is hacktivism a nuisance, gimmick or something that's worthy our time?

Acharya: This is an interesting question and, at the outset, let me confess that I do not think I can give you a full answer. If you compare hacktivism to street protests, then it should be allowed – even encouraged – as long as it does not impede the rights of others. So, for example, DOS attacks that prevent others from accessing a service are as condemnable as bandhs

“There is a childish understanding of cyber-crime that comes into play whenever the Internet is used to coordinate crime, which nowadays is quite common.”

that prevent normal people from working. However, all democracies must allow protest, and hacktivism is a form of protest. The answer lies in finding a balance that is not coercive. The most common legitimate democratic restrictions on public protests are with regard to the time and place of the protests. Maybe something similar could be formulated for hacktivists?

In a post-Snowden world, can ultimate privacy really be achieved? What is ultimately at stake here?

Acharya: As long as humans are social

beings, ultimate privacy cannot be achieved. For me, the objections to the Snowden revelations were not about the lack of ultimate privacy, but about these two issues: (i) that mass surveillance is being conducted on a global scale, and (ii) that many surveillance programmes are illegal. There are two ways to respond to this. First, as an individual, I feel that these violations of my privacy by various intelligence agencies are too intrusive to be justified on the ground of counter-terrorism because I have never displayed even the slightest interest in engaging in violence. I think privacy invasions must be supported by some basic facts or reasonable suspicion. Second, as an Indian, I am alarmed that my government, which is usually very quick to take cover under the national security umbrella, has been caught napping and that its communications – far too many government officials use commercial US email service providers such as Yahoo or Gmail – have probably been intercepted.

Many people ask: if you are not doing anything wrong, then why object to surveillance? This is a logically fallacious argument. Privacy is not about concealing your illegal acts, it is about protecting your dignity and intimate acts from others. Most people do nothing wrong in their bathrooms and bedrooms, would we

consent to strangers watching us through cameras in our intimate spaces? Our emails, Internet activities, telephone calls and so on are similarly private and should be protected. But, since we live in a community and we have elected a government to provide us security, we should indeed be prepared to suffer some surveillance. However, this surveillance should be supported by some credible reasons, and it should be audited by an independent third party. Surveillance is power and, as we know from the popular saying, absolute power corrupts absolutely. ■

Unwind

Check out some of the worst censorship online, and don't forget to read a message from our Supreme Leader.

Community

Faking your way to social stardom isn't that difficult a task as many imagine it to be. One of our readers tells us why.

PSEUDO-SCIENCE AT THE INDIAN SCIENCE CONGRESS: THE INCREDIBLE THINGS WE LEARNT

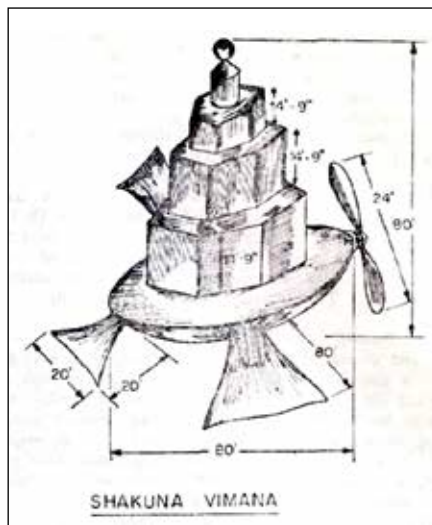
There was so much 'science' flying around at the 'Ancient Indian Aviation Technology' panel in the Indian Science Congress that we had to write this.

Nikhil Pradhan

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One look at what discussions from the recently concluded Indian Science Congress actually made news will make you think that it was organised by a super-team made up of two kinds of people- one group that comprised of folks from AIB, College Humour and The Onion; and the other made up of people who work at BuzzFeed, Mashable and other 'You won't believe what XYZ did' or 'What XYZ did with ABC, will warm your heart' websites.

The actual event had plenty of presentations on actual science by some of the sharpest minds in the country and from around the world. The Congress saw discussions on subjects as varied as 'application of mathematics to societal issues' and 'space science and space technology'. But as we all have been hard-wired by evolution to seek out the next big joke, thanks to the media coverage, we latched on to the 'experts' who spoke about 'Ancient Indian Aviation Technology' during the 'Ancient Sciences through Sanskrit' panel discussion.



One of the much talked about ancient Indian aircraft

The gist of that presentation was that ancient Indians were already well-versed in modern technology and everything that's happening today, already happened a millennia ago. Of course, that forces us to assume that our forefathers also used their version of Instagram to chronicle their evenings getting wasted on Soma Ras, or



We missed you, bro.

complained under their breath when the stewards and stewardesses on their Vimanas asked them to switch off their version of the iPad during take off.

So, here's all that we took away (thanks to Scroll.in) from the meme worthy presentations made at the Indian Science Congress by Anand Bodas, a pilot trainer and Ameya Jadhav, an esteemed educator, while wondering why they weren't



No more duplicates

The Indian government has now placed a ban on mobile handsets that have a fake or duplicate IMEI number. http://dgit.in/IMEI_Sec



New Sony wearables

Sony recently unveiled its new band of wearables, the SmartWatch 3 and SmartBand Talk in India for ₹19,990 and ₹12,990 respectively. <http://dgit.in/SonyWear>

Feature

joined on stage by a Greek American man with crazy hair and a bad tan.

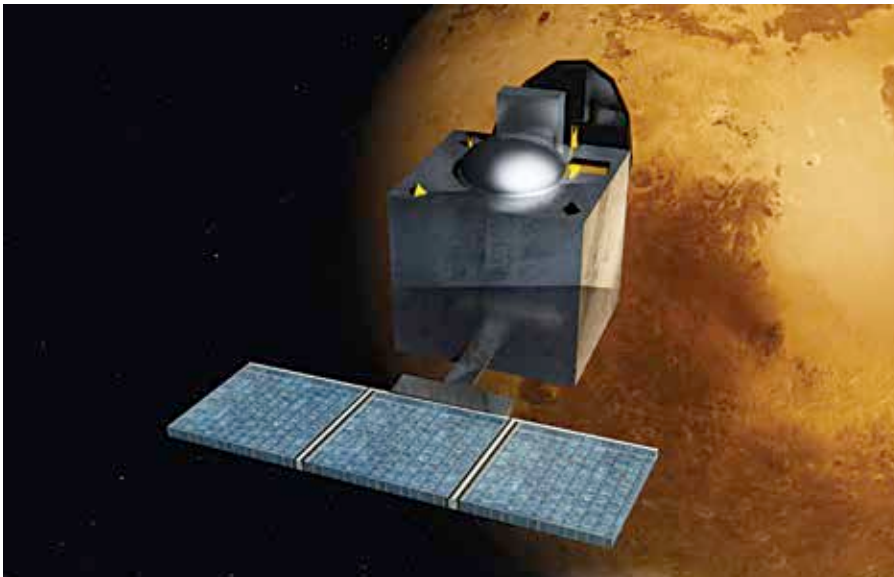
1. The 'scientific' document that Bodas and Jadhav based their findings on is the Vymanika Shastra, a document that's claimed to be 'several thousand years old', a claim that's been refuted by researchers from the Indian Institute of Science who say that it was authored in 1904 or later.
2. The ancient Indians invented an air-cum-spacecraft that could travel to Mars and back. Sorry ISRO Mars Orbiter, you may have an adorable Twitter presence but you made the journey a couple of thousand years too late.

3. The aircrafts were packed to the gills with missiles and rumour has it that they also gave the pilots the ability to quicksave and quickload.
4. Okay, go get really drunk, and then grab a pen and just doodle your heart out on a piece of paper. You see the randomness that came spewing out of your pen? Yup, these ancient aircraft had the ability to follow that flight pattern and could start, stop, turn, go up, down, back and diagonal in mid-air as if they were chess pieces on cocaine.
5. The pilots of these aircraft were all decked out in suits sewn using silk, cotton and fibres from some mystery underwater plants that made

these suits shockproof and resistant to electricity and water. Bonus stats: +15 INT, +15 CHA, +25 DEF.

6. These aircraft had radar. Because, of course, they did. Why the hell not?

Now, amidst all these paragraphs of cutting-edge humour and satire, let's not forget that many of those that came before us actually put in a lot of effort into scientific thought, and I don't mean that in the way Battlestar Galactica suggests. There were plenty of scientific breakthroughs made by those who lived in the BCE and early CE eras, some of which can still be considered incredibly advanced for their time, and we don't need to start spouting saffron



It's okay, little buddy. We still think you're special.



Antikythera mechanism

tinged pseudo-science to admit that.

So, what ancient scientific works are we talking about? Here are some of the more interesting ones:

1. The Antikythera mechanism is a complex machine made up of multiple parts and gears found in a shipwreck near a Greek island at the beginning of the last century. Researchers have dated the machine to 205 B.C. and believe that it was used for astronomical studies and to calculate the occurrences of eclipses and the movement of planets.
2. Closer to home, the Iron Pillar of Delhi is a 7 foot tall iron column near the Qutub Minar with a tremendous resistance to corrosion, whose point of origin and age is still a mystery. Scientists have stated that the pillar's special properties arise from the iron with high phosphorous content that was used to forge it. Because of the high



What if Mass Effect is about ancient Indians? Mind. Blown.



Lava Iris Alfa

Lava's latest budget offering, the Iris Alfa featuring a 5-inch display, a quad-core processor and a 2200mAh battery was launched recently <http://dgit.in/LavaAlfa>



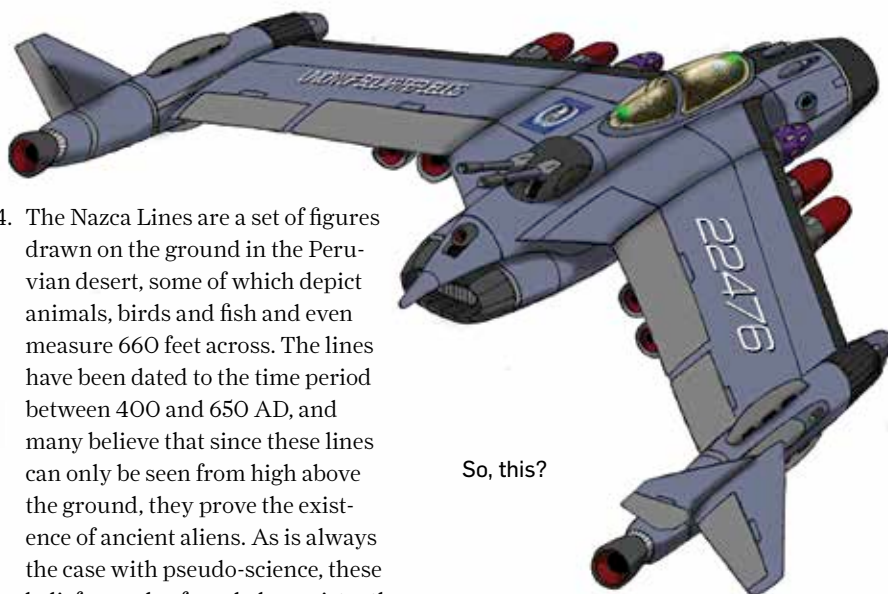
Sony Xperia Z4

The launch of Sony's next flagship is just around the corner as it already has an FCC approval and will be revealed at MWC 2015 <http://dgit.in/Z4Sony>

phosphorous content, a crystalline layer formed over the pillar's surface, protecting it from rust and corrosion.

3. The Baghdad Batteries are a bunch of artifacts uncovered in 1936 in Iraq that included terracotta pots with copper sheets and iron rods inside. These artifacts have been dated to the time period between 250 BCE and 250 AD and while many believe these were used as batteries for purposes as mundane as electroplating, to as fantastical as lighting up runways for extra-terrestrial visitors, researchers have refuted all of those beliefs. They believe that these artifacts had nothing to do with electricity and were merely storage units for scrolls and other religious items.

4. The Nazca Lines are a set of figures drawn on the ground in the Peruvian desert, some of which depict animals, birds and fish and even measure 660 feet across. The lines have been dated to the time period between 400 and 650 AD, and many believe that since these lines can only be seen from high above the ground, they prove the existence of ancient aliens. As is always the case with pseudo-science, these beliefs are also founded on mistruths



So, this?




Iron Pillar of Delhi



Baghdad Batteries

since the lines can actually be seen from the hills that surround the lines and therefore could have been drawn for more believable reasons.

As is always the case with stuff that we don't understand, most of the above discoveries also lead to people proposing theories of aliens, an uber hi-tech past and other things that generally should stay confined to a Jetsons meet the Flintstones crossover episode.

As trends go, hopefully, next time the Indian Science Congress comes around, we will get a spin-off in the Indian Science-Fiction Congress where we'll get to hear stories of how our ancestors Snapchatted with each other using self-destructing arrows or how they flew off and colonized Uranus. 

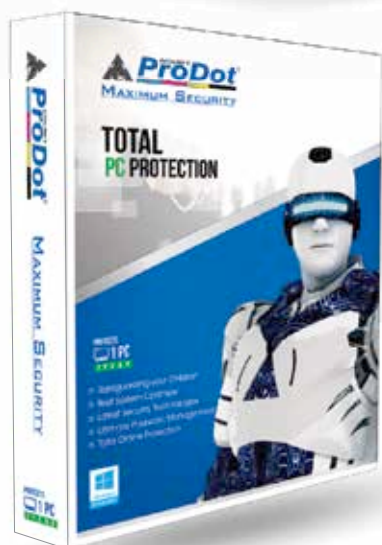


Nazca Lines

Sources: Scrollin, hinduwebsite.com, A Critical Study Of The Work VYMANIKA SHASTRA by H.S. Mukunda, S.M. Deshpande, H.R. Nagendra, A. Prabhu, and S.P. Govindaraju, Indian Institute of Science



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The largest camera

A monstrous, 3.2GigaPixel sensor is being built for the sole purpose of studying dark matter. <http://dgit.in/LargestCam>



Post apocalypse

A reversed magnetic pole can have disastrous consequences for the Earth and life as we know it. <http://dgit.in/PostApoc>

Ridiculous Censorship

Censorship for the sake of it is bad enough, and one can understand why certain governments and dictators would want to impose censorship in general (though we definitely don't sympathise), but sometimes, the reasons are so laughably bad that it makes you wonder what they were smoking!

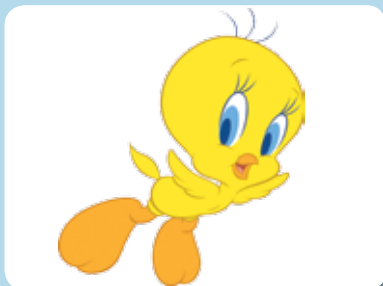


TMHT

Ever heard of Teenage Mutant Hero Turtles? Probably not, and no, it's not a rip-off of the TMNT that we know and love. TMHT is the censored version of TMNT that aired in Britain. Why? Well, the "protection of minors" law active at the time meant that Ninjas, who were "evil, mercenary, murderous assassins" in Japan, were a bad influence for kids.

Disney's "explicit" content

Walt Disney has always been associated with good, family friendly fun and if anyone told you that Disney was accused of airing sexually explicit cartoons, you'd just make the charitable assumption that they were off their rocker. Sadly, you'd be wrong. Disney received a lot of flack in the 1930s for its portrayal of "naked" animals in their cartoons, forcing it to cover up.



My hometime is ****

Woe be you if you hail from N*gton or Squaw Tit, America, or even Dikshit, India for that matter. Many popular websites censor such names and places. But who are they to stop you from calling yourself a Squaw Humper from Squaw Humper Dam eh? They have no right! Censorship has gone just that little bit too far. It must be stopped!



Dog says "woof"

"Talking animals cannot exist! They must not exist! How dare those perfidious westerners proclaim that animals are as intelligent as humans!" Thoughts to such effect must have been flitting through the Chinese Censor Board's mind when they decided to ban Alice in Wonderland for no other reason than the fact that it featured talking animals.

Games are for kids, maite!

Australia has been responsible for some of the most serious censorship when it comes to gaming, and not in terms of censoring gore and language. They literally didn't recognise any gamer over the age of 18, just going with the assumption that gamers were kids. It was only in 2013 that Australia finally woke up to the fact that the average gamer is 30 years old.



IMAGE CREDIT: NATIONAL GEOGRAPHIC



Come inferno or high water

There's something off about that statement isn't there? How about "ssup black?" or "My black" being considered less racist than saying n*g*er. Where does this madness happen? Where else but on Indian television? Other gems include the replacement of underwear with pant, b**ch with woman and a whole pile of other gems. Progressive country indeed.



BatPram anyone?

Doting Batdads with adorable and pampered Batchildren, rejoice, for the Batpram is here: <http://dgit.in/BatPram>



Bad crow, naughty crow!

Researchers have finally discovered the source of our ire against crows and they're really aren't as bad as we believe: <http://bit.ly/1yJrCeW>

Unwind

How we unwind



Haxball

It was only chance and a forum member that led us to haxball.com, but it was brute force and immense will power that took us away from that site. Haxball is easily the most entertaining and challenging game that we played this month and by all means, give it a try. Who knows? You might even spot one of us there.

PlayStations

Big Daddy returned to America with a precious bundle clutched in his capacious paws. It was a PS4, a device that he managed to grab at a bargain basement price of just `21,000. Our Big Daddy is nothing if not generous and immediately sold his old PS3 to Mithun at a massive discount. They've been playing nothing else since.



Futurama

Many on our team rediscovered the irreverent humour of Futurama and have been indulging in nothing else ever since. Sid and Jayesh in particular have spent every minute of their spare time (which isn't much) soaking in the hilarious dialogue and the retro-futuristic atmosphere. Good times indeed.

digit DIARY

Our Great and Benevolent Leader was displeased with us. His anger was short-lived, but terrible to behold. Black smoke billowed through our office, conjured up from the depths of hell (emerging via a burning air-conditioner), caking everything in a layer of soot that was as fine as it was pervasive. It invaded every nook and cranny of our office, entering cupboards and seeping into cushions. It covered all our equipment in a fine layer of carbon dust, wrecking one NVIDIA 760 and an X79 motherboard.

Our TC elf, IT manager and watchman saved the day, recognizing the smoke for what it was, our Beloved Leader's Wrath, and immediately prostrating themselves (after turning off the power) before the image of our Leader, the Bringer of Light, the Human Sun. Such is the magnificent benevolence of the Father of the People that he granted forgiveness to us, his children, undeserving as we were of such compassion. The fire died within moments of the prostration (and the turning off of the power).

Brief as our Leader's wrath was, the damage was severe as our entire UPS system was damaged and our design and backup servers went offline for a few days. It was only the generosity of our Beloved Leader that our very beings remained unharmed, though we did inhale a lungful or two of carbon dust.

The residue that remained blackened our faces and hands for days to come, marking us for what we were, but it was a penance that we gladly served for we deserved nothing

less than death for our crimes. In other news, the Supreme Leader's Chosen One (a marvel of the human condition, not as magnificent as the Great Leader, but the Chosen One does bristle with electricity, powering his PC by the static charge he generates by his mere presence (the Supreme Leader's own static discharge powers the entire nation)), was challenged to a game of Quake III by his Pony and Mr.Dey. Such imper-

tinence must not go unpunished, His Benevolence demands a thrashing unlike any other and the Chosen One obliged. The Chosen One defeated the Pony and Mr.Dey in a 1 vs. 2 frag-fest that saw him win with a spread of 20:0-20 to Mr.Dey and Pony respectively. Such was the Chosen One's skill that neither of the two incumbents managed a chance to even scratch each other, let alone touch a hair on the Chosen One's head, many a time jumping off DM17's edges in sheer terror. It was a tournament for the ages, one that our Benevolent Master would

have been proud to observe. The Chosen One is a strong ally, the Bald (by choice), Benevolent Leader chooses his aides wisely and well.

This Diary has been published with the approval of the Minister for Public Harmony, appointed by the Supreme Leader of all beings Himself. You have his permission to bow before his might and if you are good, he will let you bask in his magnificence. If you can write, He will hire you. As always, send your resumes to servantsofthesupremeleader@digit.in and you might be heard.



The Digit SKOAR!board

Difficulty level: Pants on Fire
Gauntleting Mr. Dey: 32 times
Skillz learned: Pony learns Humility (Level 10)

Quote of the month: "No money, no honey"
- Baiju the Venerable



320GB on a phone?

The Saygus V2 is a phone that provides 320GB of storage and comes with root access <http://dgit.in/SaygusV2>



Lightroom mobile

After several months of its iOS release, Adobe has finally launched it for Android with all key features of the iOS version. <http://dgit.in/LTRoomDroid>



Every month we highlight some aspiring tech writers and their spirited attempt to get published in the magazine. Let's have more!

Hack your way to popularity

The faker's guide to social media stardom



Praneet Sab

So, you're desperate for fame and want to be at the top as soon as possible. You may have heard the phrase "Fake it till you make it". In real life, this might be hard for you, but on the Internet anything is possible since information can be modified. If it isn't immediately modifiable, and you are resourceful enough, then you simply hack it (not as easy as it sounds). You've most

likely faced this situation – You started a Facebook page or posted an update, but failed miserably in managing to get even a few hundred likes. Similar might be the case with your Twitter account or your website or maybe even a video that you uploaded, all of which failed to achieve the goals of popularity you set for them. You now resort to a few underhanded tactics to gain likes such as begging friends or creating fake accounts to like your own stuff, because hey, what option did you have? However, you still can't reach that "100 likes" target. This is the moment you realise only one person can help you – the techie friend. He does some black magic and voila! You have tons of likes! So basically, what did he do? No, he didn't conjure spirits from the nether to pull off this trick. It's in fact so easy to do that even you can do it. Keep reading to learn the secret yourself.

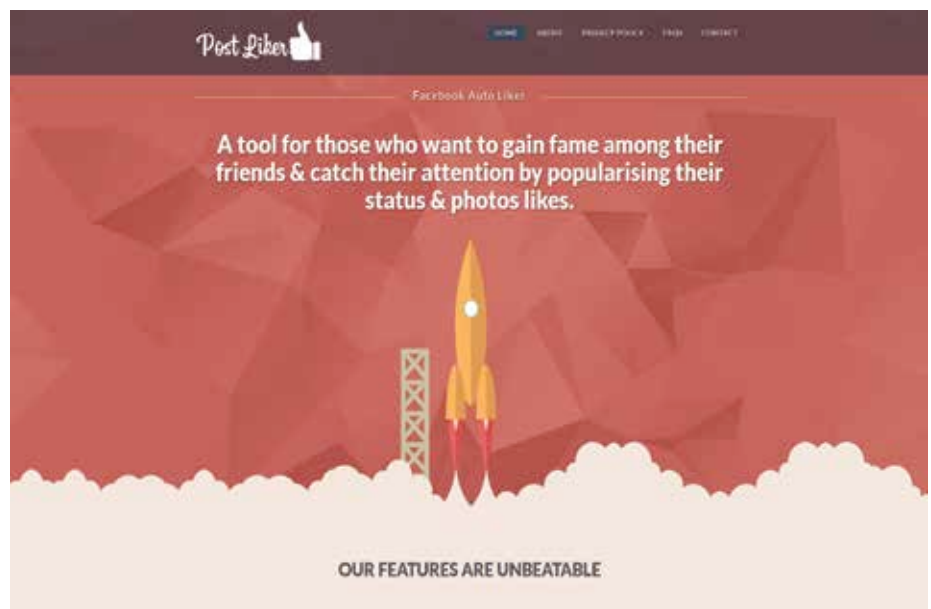
First of all, let's talk about the most obvious method: buying likes/followers/video or site views etc. However, since many of you reading this may be students on a budget, this obviously won't work for you. In case you have the cash to spend, then you may try searching fiverr.com for people providing this service. We all love freebies though, don't we? So let's look at alternatives that are lighter on the pocket...

1. Facebook

You may have seen comments floating around on Facebook such as "Get thousands of followers by visiting here". In short, it's all fake. But wait, there are a few genuine sites that serve the purpose advertised. They'll give you likes on your profile's status updates,

photos, albums or any other update done from your profile (and not a page). In order to achieve this, you need to be 18+ of age (at least on your Facebook profile). Next, you need to enable subscribers/followers from your Facebook account, which you can do by visiting <https://www.facebook.com/settings?tab=followers>. Over here, set 'who can follow me' to 'Everybody' and finally set the privacy of the post on which you want likes to 'public'. Now comes the tricky part.

Visit <http://postliker.net/> and scroll down a bit to look for 'Method for logging in'. Under 'Method 1', click on 'click here' and you'll be taken to <http://postliker.net/is.php?token=true> (you'll encounter lots of ads, so be smart and kill them). Now follow 'Step 1' as mentioned on the site which says "Click here to allow permissions" and you'll be taken to Facebook. Here, you'll be asked for tons of permissions; you've got to allow them all. Now return to the site to complete 'Step 2', and wait a few seconds and then copy the whole URL (this contains your token). It would some-



what look like https://www.facebook.com/connect/login_success.html#access_token=very_long_string&expires_in=0 Now, return to postliker.net and under 'Method for logging in', paste the URL you just copied and click 'Submit'. A CAPTCHA code will appear. Fill



Cost of living

If you thought that the cost of living outside was high, you can verify with this amazing infographic <http://dgit.in/CostOfLiv>



Changing Batteries

Check out this wonderful 3D animated short movie about an old woman living alone with a robot <http://dgit.in/ChangBatt>

Digit Squad

it in correctly and then click 'Continue' and voila! You'll now see a page displaying all the status updates ever done on your Facebook account. You'll also see three tabs, status, photo and custom ID; choose the one to which your content belongs and then simply click 'Submit'. Wait for a minute and then go check that post.

You can also try the same steps on <http://likeslo.net/> and get another hundreds of likes. And of course, there are tons of sites like these which you can find yourself.

Now that you've got likes on your personal profile, you probably want tons of likes on your Facebook page too. Here, you have a few more options: either buy likes if you don't have time or if you do then go on and try like/stuff exchange website (more discussed later). The latter is the ONLY working method (trust me, I'm a tenth grader). Another option is 'Friend Bomber', however, this software is way too complicated for newbies. You'll also need to understand proxy-related concepts, but yeah, if you could then this will work for you.

2. Twitter, Instagram and every other social network

Accept the fact that Facebook is way more popular than any other social media site and this is why the other social networks only have a handful of working methods to make you popular (apart from buying) including the Exchange method. This method basically involves you doing things for others to earn points and then exchange those points for followers/views/etc. Some of the top sites are <http://addmefast.com/>, <http://www.likesasap.com/> and <http://www.like4like.org/>.

Let's talk about addmefast.com. Register and after logging in, you'll need to earn points, which you can do by carrying out a task. This you can do by choosing from any of the options in the left sidebar such as 'Twitter Followers'. By following others, you get 2-10 points for every tweeter you follow. You can, of course, choose other ways too. Once you've accumulated hundreds of points, you can then put your own task for others to complete. To do so, click the button at the top-left sidebar which says 'Add Site/Page'. Now choose the type, e.g. If you want more followers on your Twitter account, then choose 'Twitter Followers'. Set a self-explanatory title, provide your link/username and select 'Cost Per Click' (CPC), which tells task completers how many points they'll earn by doing your work. Remember, higher CPC means quicker work. Finally, save changes and you're good to go! Look around for more such sites and you won't have to turn to your techie friends ever again.

Read this before trying any of these methods

You could definitely reach the top of every social networking website using these tricks, so why doesn't everyone else do this? The answer is simple, the response of audience. The problem is that you might get around thousand likes on your Facebook page, but there won't be even a single engagement with your posts. Generally, most people on exchange websites use fake accounts, so basically you're just getting fake likes which aren't even going to ever be active! Imagine a situation where you have around a million likes but there are just 10-20 likes on the

things you posted. This even encourages doubt among new and genuine likers.

Another thing is that if you are using Tip #1, then you're indirectly letting a third party know your Facebook account's password. They can literally do just about anything with your account just by using that token (URL). And in case you're wondering about the people who are liking your stuff, they're actually people just like you, who are submitting the token to that site and the site is using all these tokens to like someone else's stuff. In other words, the site is already using your token to like things without your consent.

If you're using Tip #2, then you might be golden for a few days or weeks, but in the long run you can get banned or flagged for using wrong ways. So, if you're getting fake traffic to your website then Google may relegate it to the bottom of its search results or worse, not feature it at all. Similarly, other sites can penalise you with their own actions. If you want to get genuine likes, post good content and don't measure your happiness in terms of number of likes.

Disclaimer: The above guide is not endorsed by Digit in any way. Please proceed with caution whenever giving permissions within your Facebook page or copy pasting token based modified URLs. It's best to first try out such measures on non-primary profiles. The article reflects the views of the contributor and Digit cannot be held liable in case of any sort of damage resulting from following above steps.



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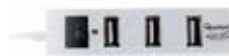
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